

STATE OF CALIFORNIA
Energy Resources Conservation
and Development Commission

DOCKET	
03-AFC-2	
DATE	JUN 23 2005
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Application for Certification for the)
LOS ESTEROS CRITICAL ENERGY FACILITY) Docket No. 03-AFC-2
PHASE 2)
(LOS ESTEROS 2))
_____)

**APPLICANT'S PREHEARING CONFERENCE STATEMENT
(PHASE 2)**

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STATE OF CALIFORNIA

Energy Resources Conservation
and Development Commission

Application for Certification for the)	
LOS ESTEROS CRITICAL ENERGY FACILITY)	Docket No. 03-AFC-2
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**APPLICANT'S PREHEARING CONFERENCE STATEMENT
(PHASE 2)**

I. INTRODUCTION

Pursuant to the Notice of Evidentiary Hearing, dated June 17, 2005 (the "Notice") the Los Esteros Critical Energy Facility, LLC ("LECEF" or "Applicant") hereby files this Prehearing Conference Statement for Phase 2 of this proceeding.

As indicated below, the Applicant and Commission Staff ("Staff") have successfully resolved almost all substantive issues regarding the certification of the proposed combined cycle facility.

We respond below to the specific issues raised in the Notice.

II. APPLICANTS RESPONSE TO THE NOTICE

A. Contacts with other parties.

The Applicant contacted the three other parties in this proceeding (Staff, CARE and CURE). The Applicant contacted the Staff on June 20 and June 22, 2005. The Staff and Applicant mutually agreed to provide witnesses at the evidentiary hearing on Air Quality issues. The Applicant contacted Mr. Robert Sarvey on the morning of June 20, 2005. Mr. Sarvey requested that the Applicant provide a witness at the evidentiary hearing on Air Quality issues. The Applicant contacted Mr. Marc Joseph (counsel for CURE) on June 22, 2005 and he indicated that CURE does not intend to participate in the evidentiary hearing.

Based on these contacts, the Applicant will have a witness (Mr. Gary Rubenstein) available at the evidentiary hearing to address air quality issues.

B. Identities and qualifications of witnesses.

The identities of the witnesses for the Applicant are set forth in Attachment A to this Statement. The testimony and resumes are set forth in Attachment B.

C. Whether a dispute requiring adjudication exists for any topic area.

The CEC Staff has proposed Condition AQ-SC11 to require that LECEF replace the selective reduction catalyst (SCR) within 12 months after 24-hour average ammonia concentrations are calculated or measured to exceed a 5 ppm ammonia slip limit. The Applicant is opposed to this condition because there is no technical justification for this requirement, as the FSA fails to establish a significant, adverse environmental impact that warrants mitigation beyond the requirements of the Bay Area AQMD. Further, the Staff has failed to establish the technical feasibility of such a requirement in this case.

In contrast to the Staff's recommendation, the revised PDOC issued by the BAAQMD has established a 10 ppm ammonia slip limit. In a letter dated April 25, 2005, the CEC Staff proposed to the BAAQMD that the ammonia slip limit be reduced from 10 ppm to 5 ppm in comments on the revised PDOC filed with the District. It is the Applicant's understanding that the BAAQMD will issue the FDOC with the same 10 ppm limit contained in the PDOC.

There is no Best Available Control Technology (BACT) requirement for ammonia emissions. Instead, the CEC Staff allegedly bases its proposed ammonia slip condition on the need to address environmental impacts under CEQA. However, the CEC Staff presents no technical analysis or credible scientific evidence to support its proposal. In addition, LECEF has concerns about the technical feasibility of achieving a 5 ppm slip level given the control technology used with this equipment, in combination with other emission limits imposed on the facility. Finally, even if a 5 ppm ammonia slip level was feasible for the LECEF units, the CEC Staff has failed to evaluate the adverse environmental impacts associated with its proposal.

For these reasons, we would ask that the Commission reject proposed Condition AQ-SC11. The Applicant's testimony on this issue is set forth in Attachment B.

Finally, the Applicant has proposed to Staff that the Commission adopt in this proceeding condition Worker Safety 3, as adopted by the Commission on June 22 in the Inland Empire Amendment proceeding, in lieu of Worker Safety 3 and 4 proposed in the Staff Analysis. It is our understanding that Staff will agree to this change; therefore, this issue should not require adjudication.

D. The identity of the witnesses the Applicant proposes to sponsor.

We have set forth in Attachment A to this prehearing conference statement the identity of the witnesses the Applicant proposes to sponsor, the topic areas upon which the witnesses will testify, the exhibits the witness will sponsor and a brief summary of the witnesses qualifications.

The Applicant believes that all such testimony can be submitted by stipulation, subject to the rights of other parties and interested members of the public to cross-examine or ask questions.

E. The exhibits the Applicant intends to offer as evidence.

All of the exhibits the applicant intends to sponsor as evidence are identified in Attachment A. Under separate cover, the Applicant will provide the hearing office a numbered exhibit list and a copy of these exhibits. These exhibits will also be provided to any other party upon request.

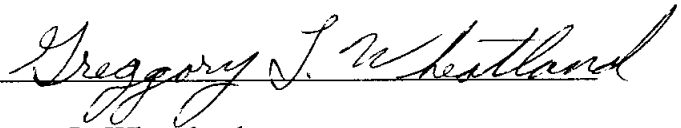
F. Evidence considered in previous decisions on the LECEF.

The Applicant has no objection to evidence submitted and considered in previous Commission Decisions on the LECEF being incorporated by reference in this proceeding, but the Applicant does not believe that it is necessary to incorporate such material in order to have a complete record. The Applicant believes that the AFC, Final Staff Assessment and exhibits set forth in Attachment A to this Statement will constitute a complete and sufficient record for a decision by the Commission.

June 23, 2005

Respectfully submitted,

ELLISON, SCHNEIDER & HARRIS L.L.P.

By 

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LLC

Attachment A: Identities of witnesses to be sponsored by the Applicant and identification of exhibits to be sponsored by the Applicant.

Attachment B: Applicant's Testimony and Resumes of Witnesses

Attachment A

Los Esteros Critical Energy Facility Application for Certification Before the California Energy Commission (03-AFC-2)

Submission to the California Energy Commission Applicant's Proposed Witnesses and Qualifications, Issue Areas and Exhibits

June 23, 2005

Applicant's Proposed Witnesses and Qualifications

Douglas M. Davy, Ph.D. – AFC Project Manager - Douglas Davy has 22 years of experience in the environmental consulting industry providing regulatory compliance and project management support for infrastructure development projects. This experience includes National Environmental Policy Act and California Environmental Quality Act compliance for commercial, government, and military clients. He has served as Project Manager for the preparation of Applications for Certification (AFCs) before the California Energy Commission (CEC) for several thermal power plant project cases, including preparation of three 12-month AFCs, two 6-month AFCs, one relicense and combined-cycle conversion AFC, three emergency peaker AFCs, and several AFC amendments. Dr. Davy will co-sponsor Applicant's testimony in the areas of Alternatives; Biological Resources; Cultural Resources; Facility Design, General Conditions Including Compliance Monitoring and Closure Plan; Hazardous Materials Management; Land Use; Noise and Vibration; Geology and Paleontological Resources; Power Plant Reliability, and Power Plant Efficiency; Socioeconomic Resources; Soil and Water Resources; Traffic and Transportation; Transmission Line Safety and Nuisance; Transmission System Engineering, Visual Resources; Waste Management; and Worker Safety and Fire Protection.

Gary Rubenstein, B.S., QEP, - Sierra Research. Mr. Gary Rubenstein is one of the founding partners of Sierra Research. A graduate of Caltech, he is an engineer with an extensive background in the air pollution control field, including all aspects of air quality planning, strategy development and analysis, emission inventory development, emission control system design and evaluation, and automotive emission control design. He is certified as a Qualified Environmental Professional by the Institute for Professional Environmental Practice. Mr.

Rubenstein has represented numerous clients in licensing cases before the California Energy Commission. Mr. Rubenstein will sponsor Applicant's testimony in the areas of Air Quality, Biological Resources and Public Health.

Rick Tetzloff, B.S.M.E., P.E., - Calpine Corporation. Mr. Rick Tetzloff is the Project Development Manager for the Los Esteros Critical Energy Facility. In addition to the LECEF project, Mr. Tetzloff has worked on numerous power plant development projects in California and the Pacific Northwest for Calpine. Mr. Tetzloff will co-sponsor Applicant's testimony in the areas of Alternatives; Biological Resources; Cultural Resources; Facility Design, General Conditions Including Compliance Monitoring and Closure Plan; Hazardous Materials Management; Land Use; Noise and Vibration; Geology and Paleontological Resources; Power Plant Reliability, and Power Plant Efficiency; Socioeconomic Resources; Soil and Water Resources; Traffic and Transportation; Transmission Line Safety and Nuisance; Transmission System Engineering, Visual Resources; Waste Management; and Worker Safety and Fire Protection.

Issue Areas and Exhibits

Arranged in alphabetical order by issue area:

Air Quality

Mr. Rubenstein has prepared testimony in the area of Air Quality. Mr. Rubenstein's testimony notes that there will be no significant impacts to Air Quality resulting from the Los Esteros Critical Energy Facility and that the project will comply with all applicable local, state, and federal laws, ordinances, regulations, and standards.

Mr. Rubenstein will sponsor the following exhibits in the area of Air Quality:

- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined Cycle Conversion, dated December 2003, Section 8.1.
- Supplement in Response to Data Adequacy Comments on the Application for Certification for the Los Esteros Critical Energy Facility, dated February 2004, Section 8.1.
- Applicant's Response to CEC Staff Data Requests, dated April 30, 2004, Responses to Data Requests 1 through 12.
- Letter from Gary Rubenstein, Sierra Research, to Dennis Jang, BAAQMD, responding to EPA and CEC Staff comments on the revised PDOC, dated May 11, 2005.
- Letter from Gary Rubenstein, Sierra Research, to Dennis Jang, BAAQMD, regarding emission reduction credits, dated May 5, 2005
- Letter from Gary Rubenstein, Sierra Research, to Dennis Jang, BAAQMD, commenting on revised PDOC, dated April 4, 2005.
- Revised Preliminary Determination of Compliance, Bay Area Air Quality Management District, dated March 14, 2005.

- E-mail from Gary Rubenstein, Sierra Research, to Gabriel Taylor (et al), CEC, providing responses to CEC questions, dated February 2, 2005.
- Letter from Gary Rubenstein, Sierra Research, to Steve Hill, BAAQMD, regarding elimination of the proposed PM10 emission increase, dated January 27, 2005.
- Letter from Gary Rubenstein, Sierra Research, to Bob Worl, CEC, regarding elimination of the proposed PM10 emission increase, dated January 27, 2005.
- Letter from Gary Rubenstein, Sierra Research, to Steve Hill, BAAQMD regarding Proposed BACT Determination, dated December 28, 2004.
- Letter from Gary Rubenstein, Sierra Research, to Dennis Jang, BAAQMD, providing comments on the Preliminary Determination of Compliance, dated November 30, 2004.
- Preliminary Determination of Compliance, BAAQMD, dated September 28, 2004.
- Letter from Steve Hill, BAAQMD to Gary Rubenstein Sierra Research, regarding NOx BACT determination, dated September 28, 2004.
- Letter from Gary Rubenstein, Sierra Research to Steve Hill, BAAQMD, regarding the NOx BACT determination for the combined-cycle gas turbine configuration, dated September 8, 2004.
- Letter from Gary Rubenstein, Sierra Research, to Steve Hill, BAAQMD, regarding NOx Best Available Control Technology Determination, dated August 17, 2004.
- Letter from Gary Rubenstein, Sierra Research, to Dennis Jang, BAAQMD regarding various permit conditions, dated July 8, 2004.
- Letter from Gary Rubenstein, Sierra Research, to Bob Worl, CEC, regarding Revised Cancer Risk Assessment and response to ARB comments, dated July 2, 2004.
- Letter from Gary Rubenstein, Sierra Research, to Steve Hill, BAAQMD, regarding NOx Best Available Control Technology Determination, dated July 2, 2004.
- Letter from Gary Rubenstein, Sierra Research, to Steve Hill, BAAQMD, regarding the proposed modifications to the LECEF facility, dated June 1, 2004.
- Letter from Gary Rubenstein, Sierra Research, to Bob Worl, California Energy Commission, regarding the proposed modifications to the LECEF facility, dated June 1, 2004.
- Cumulative Air Quality Impacts Analysis, dated May 18, 2004.
- Letter from Dennis Jang, BAAQMD to Robert Worl, CEC, regarding completeness determination, dated February 9, 2004.
- Letter from Victor Morales-Lannon, BAAQMD, to Nancy Matthews, Sierra Research, regarding receipt of application, dated January 13, 2004.

- Application to the Bay Area Air Quality Management District for a Determination of Compliance and Authority to Construct Permit Modification at the Los Esteros Critical Energy Facility in San Jose California, dated January 12, 2004

Alternatives

Mr. Tetzloff and Dr. Davy will sponsor testimony in the area of Alternatives. Mr. Tetzloff's and Dr. Davy's testimony notes that there will be no significant impacts resulting from Phase 2 of the Los Esteros Critical Energy Facility and that the project will comply with all applicable local, state, and federal laws, ordinances, regulations, and standards.

Mr. Tetzloff and Dr. Davy will sponsor the following exhibits in the area of Alternatives:

- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined Cycle Conversion, dated December 2003, Section 9.

Biological Resources

Mr. Tetzloff, Dr. Davy and Mr. Rubenstein will sponsor testimony in the area of Biological Resources. Mr. Tetzloff's, Dr. Davy's and Mr. Rubenstein's testimony notes that there will be no significant impacts to Biological Resources resulting from Phase 2 of the Los Esteros Critical Energy Facility and that the project will comply with all applicable local, state, and federal laws, ordinances, regulations, and standards.

Mr. Tetzloff, Dr. Davy and Mr. Rubenstein will sponsor the following exhibits in the area of Biological Resources:

- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined Cycle Conversion, dated December 2003, Section 8.2.
- Supplement in Response to Data Adequacy Comments on the Application for Certification for the Los Esteros Critical Energy Facility, dated February 2004, Section 8.2.
- Applicant's Response to CEC Staff Data Requests, dated April 30, 2004, Responses to Data Requests 13 through 29.
- Low Effect Habitat Conservation Plan For Bay Checkerspot Butterfly and Serpentine Endemic Plant Species, dated May 26, 2005.

Cultural Resources

Mr. Tetzloff and Dr. Davy will sponsor testimony in the area of Cultural Resources. Mr. Tetzloff's and Dr. Davy's testimony notes that there will be no significant impacts to Cultural Resources resulting from Phase 2 of the Los Esteros Critical Energy Facility and that the project will comply with all applicable local, state, and federal laws, ordinances, regulations, and standards.

Mr. Tetzloff and Dr. Davy will sponsor the following exhibits in the area of Cultural Resources:

- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined Cycle Conversion, dated December 2003, Section 8.3.

- Supplement in Response to Data Adequacy Comments on the Application for Certification for the Los Esteros Critical Energy Facility, dated February 2004, Section 8.3.
- Applicant's Response to CEC Staff Data Requests, dated April 30, 2004, Responses to Data Requests 30 through 33.

Facility Design, Power Plant Reliability, and Power Plant Efficiency

Mr. Tetzloff will sponsor testimony in the area of Facility Design, Power Plant Reliability, and Power Plant Efficiency. Mr. Tetzloff's testimony notes that there will be no significant impacts to Facility Design, Power Plant Reliability, and Power Plant Efficiency resulting from Phase 2 of the Los Esteros Critical Energy Facility and that the project will comply with all applicable local, state, and federal laws, ordinances, regulations, and standards.

Mr. Tetzloff and will sponsor the following exhibits in the area of Facility Design, Power Plant Reliability, and Power Plant Efficiency:

- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined Cycle Conversion, dated December 2003, Sections 2, 5, 6, 7 and 10.
- Supplement in Response to Data Adequacy Comments on the Application for Certification for the Los Esteros Critical Energy Facility, dated February 2004, Sections 1.0 and 2.0.

General Conditions Including Compliance Monitoring and Closure Plan

Mr. Tetzloff and Dr. Davy will sponsor testimony in the area of General Conditions Including Compliance Monitoring and Closure Plan. Mr. Tetzloff's and Dr. Davy's testimony notes that there will be no significant impacts to General Conditions Including Compliance Monitoring and Closure Plan resulting from Phase 2 of the Los Esteros Critical Energy Facility and that the project will comply with all applicable local, state, and federal laws, ordinances, regulations, and standards.

Mr. Tetzloff and Dr. Davy will sponsor the following exhibits in the area of General Conditions Including Compliance Monitoring and Closure Plan:

- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined Cycle Conversion, dated December 2003, Section 4.

Hazardous Materials Management

Mr. Tetzloff and Dr. Davy will sponsor testimony in the area of Hazardous Materials Management. Mr. Tetzloff's and Dr. Davy's testimony notes that there will be no significant impacts to Hazardous Materials Management resulting from Phase 2 of the Los Esteros Critical Energy Facility and that the project will comply with all applicable local, state, and federal laws, ordinances, regulations, and standards.

Mr. Tetzloff and Dr. Davy will sponsor the following exhibits in the area of Hazardous Materials Management:

- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined Cycle Conversion, dated December 2003, Section 8.5.

Land Use

Mr. Tetzloff and Dr. Davy will sponsor testimony in the area of Land Use. Mr. Tetzloff's and Dr. Davy's testimony notes that there will be no significant impacts to Land Use resulting from Phase 2 of the Los Esteros Critical Energy Facility and that the project will comply with all applicable local, state, and federal laws, ordinances, regulations, and standards.

Mr. Tetzloff and Dr. Davy will sponsor the following exhibits in the area of Land Use:

- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined Cycle Conversion, dated December 2003, Section 8.6.
- Applicant's Response to CEC Staff Data Requests, dated April 30, 2004, Responses to Data Requests 34 and 35.

Noise and Vibration

Mr. Tetzloff and Dr. Davy will sponsor testimony in the area of Noise and Vibration. Mr. Tetzloff's and Dr. Davy's testimony notes that there will be no significant Noise and Vibration impacts resulting from Phase 2 of the Los Esteros Critical Energy Facility and that the project will comply with all applicable local, state, and federal laws, ordinances, regulations, and standards.

Mr. Tetzloff and Dr. Davy will sponsor the following exhibits in the area of Noise and Vibration:

- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined Cycle Conversion, dated December 2003, Section 8.7.
- Supplement in Response to Data Adequacy Comments on the Application for Certification for the Los Esteros Critical Energy Facility, dated February 2004, Section 8.7.

Geology and Paleontological Resources

Mr. Tetzloff and Dr. Davy will sponsor testimony in the area of Geology and Paleontological Resources. Mr. Tetzloff's and Dr. Davy's testimony notes that there will be no significant impacts to Geology and Paleontological Resources resulting from Phase 2 of the Los Esteros Critical Energy Facility and that the project will comply with all applicable local, state, and federal laws, ordinances, regulations, and standards.

Mr. Tetzloff and Dr. Davy will sponsor the following exhibits in the area of Geology and Paleontological Resources:

- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined Cycle Conversion, dated December 2003, Sections 8.4 and 8.8.

- Supplement in Response to Data Adequacy Comments on the Application for Certification for the Los Esteros Critical Energy Facility, dated February 2004, Sections 8.4 and 8.8.

Public Health

Mr. Rubenstein will sponsor the testimony in the area of Public Health. Mr. Rubenstein's testimony notes that there will be no significant impacts to Public Health resulting from Phase 2 of the Los Esteros Critical Energy Facility and that the project will comply with all applicable local, state, and federal laws, ordinances, regulations, and standards.

Mr. Rubenstein will sponsor the following exhibits in the area of Public Health:

- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined Cycle Conversion, dated December 2003, Section 8.9.
- Applicant's Response to CEC Staff Data Requests, dated April 30, 2004, Responses to Data Request 36.

Socioeconomic Resources

Mr. Tetzloff and Dr. Davy will sponsor testimony in the area of Socioeconomic Resources. Mr. Tetzloff's and Dr. Davy's testimony notes that there will be no significant impacts to Socioeconomic Resources resulting from Phase 2 of the Los Esteros Critical Energy Facility and that the project will comply with all applicable local, state, and federal laws, ordinances, regulations, and standards.

Mr. Tetzloff and Dr. Davy will sponsor the following exhibits in the area of Socioeconomic Resources:

- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined Cycle Conversion, dated December 2003, Section 8.10.
- Supplement in Response to Data Adequacy Comments on the Application for Certification for the Los Esteros Critical Energy Facility, dated February 2004, Section 8.10.

Soil and Water Resources

Mr. Tetzloff and Dr. Davy will sponsor testimony in the area of Soil and Water Resources. Mr. Tetzloff's and Dr. Davy's testimony notes that there will be no significant impacts to soils and water resources resulting from Phase 2 of the Los Esteros Critical Energy Facility and that the project will comply with all applicable local, state, and federal laws, ordinances, regulations, and standards.

Mr. Tetzloff and Dr. Davy will sponsor the following exhibits in the area of Soil and Water Resources:

- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined Cycle Conversion, dated December 2003, Sections 8.11 and 8.15.

- Supplement in Response to Data Adequacy Comments on the Application for Certification for the Los Esteros Critical Energy Facility, dated February 2004, Sections 8.11 and 8.15.
- Applicant's Response to CEC Staff Data Requests, dated April 30, 2004, Responses to Data Requests 37 through 42.
- Information needed for Water Analysis, dated October 1, 2004.

Traffic and Transportation

Mr. Tetzloff and Dr. Davy will sponsor testimony in the area of Traffic and Transportation. Mr. Tetzloff's and Dr. Davy's testimony notes that there will be no significant impacts to Traffic and Transportation resources resulting from Phase 2 of the Los Esteros Critical Energy Facility and that the project will comply with all applicable local, state, and federal laws, ordinances, regulations, and standards.

Mr. Tetzloff and Dr. Davy will sponsor the following exhibits in the area of Traffic and Transportation:

- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined Cycle Conversion, dated December 2003, Section 8.12.
- Applicant's Response to CEC Staff Data Requests, dated April 30, 2004, Responses to Data Requests 43 through 45.

Transmission Line Safety and Nuisance

Mr. Tetzloff and Dr. Davy will sponsor testimony in the area of Transmission Line Safety and Nuisance. Mr. Tetzloff's and Dr. Davy's testimony notes that there will be no significant impacts to Transmission Line Safety and Nuisance resulting from Phase 2 of the Los Esteros Critical Energy Facility and that the project will comply with all applicable local, state, and federal laws, ordinances, regulations, and standards.

Mr. Tetzloff and Dr. Davy will sponsor the following exhibits in the area of Transmission Line Safety and Nuisance:

- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined Cycle Conversion, dated December 2003, Section 5.

Transmission System Engineering

Mr. Tetzloff and Dr. Davy will sponsor testimony in the area of Transmission System Engineering. Mr. Tetzloff's and Dr. Davy's testimony notes that there will be no significant impacts to Transmission System Engineering resulting from Phase 2 of the Los Esteros Critical Energy Facility and that the project will comply with all applicable local, state, and federal laws, ordinances, regulations, and standards.

Mr. Tetzloff and Dr. Davy will sponsor the following exhibits in the area of Transmission System Engineering:

- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined Cycle Conversion, dated December 2003, Section 5.
- Supplement in Response to Data Adequacy Comments on the Application for Certification for the Los Esteros Critical Energy Facility, dated February 2004, Section 6.0.
- Applicant's Response to CEC Staff Data Requests, dated April 30, 2004, Responses to Data Request 46.
- Los Esteros Critical Energy Facility LECEF Phase 2 Transmission Interconnection with Silicon Valley Power

Visual Resources

Mr. Tetzloff and Dr. Davy will sponsor testimony in the area of Visual Resources. Mr. Tetzloff's and Dr. Davy's testimony notes that there will be no significant impacts to Visual Resources resulting from Phase 2 of the Los Esteros Critical Energy Facility and that the project will comply with all applicable local, state, and federal laws, ordinances, regulations, and standards.

Mr. Tetzloff and Dr. Davy will sponsor the following exhibits in the area of Visual Resources:

- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined Cycle Conversion, dated December 2003, Section 8.13.
- Applicant's Response to CEC Staff Data Requests, dated April 30, 2004, Responses to Data Requests 47 through 54.

Waste Management

Mr. Tetzloff and Dr. Davy will sponsor testimony in the area of Waste Management. Mr. Tetzloff's and Dr. Davy's testimony notes that there will be no significant impacts to Waste Management resulting from Phase 2 of the Los Esteros Critical Energy Facility and that the project will comply with all applicable local, state, and federal laws, ordinances, regulations, and standards.

Mr. Tetzloff and Dr. Davy will sponsor the following exhibits in the area of Waste Management:

- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined Cycle Conversion, dated December 2003, Section 8.14.
- Applicant's Response to CEC Staff Data Requests, dated April 30, 2004, Responses to Data Requests 55 through 57.
- Response to e-mail from Janet Naito, DTSC to Ramesh Sundareswaran, California Energy Commission, dated April 6, 2004 regarding DTSC Comments on the Los Esteros 2 Project.

Worker Safety and Fire Protection

Mr. Tetzloff and Dr. Davy will sponsor testimony in the area of Worker Safety and Fire Protection. Mr. Tetzloff's and Dr. Davy's testimony notes that there will be no significant impacts to Worker Safety and Fire Protection resulting from Phase 2 of the Los Esteros Critical

Energy Facility and that the project will comply with all applicable local, state, and federal laws, ordinances, regulations, and standards.

Mr. Tetzloff and Dr. Davy will sponsor the following exhibits in the area of Worker Safety and Fire Protection:

- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined Cycle Conversion, dated December 2003, Section 8.16.
- Supplement in Response to Data Adequacy Comments on the Application for Certification for the Los Esteros Critical Energy Facility, dated February 2004, Section 8.16

Attachment B
Testimony

for the

Application for Certification
Los Esteros Critical Energy Facility
Phase 2 Combined-Cycle Conversion
03-AFC-2

Submitted to the
California Energy Commission

June 23, 2005

Submitted by
Los Esteros Critical Energy Facility, LLC

With Technical Assistance by
CH2MHILL
2485 Natomas Park Drive, Suite 600
Sacramento, California 95833

Project Overview

I. Introduction

- A. **Name:** Rick Tetzloff, B.S. M.E., P.E., and Douglas Davy, Ph.D.
- B. **Purpose:** This testimony presents an overview of the project and covers the portions of the AFC not represented by other witnesses.
- C. **Qualifications:** *Rick Tetzloff, B.S.M.E., P.E., - Calpine Corporation.* Mr. Rick Tetzloff is the Project Development Manager for the Los Esteros Critical Energy Facility. In addition to the LECEF project, Mr. Tetzloff has worked on numerous power plant development projects in California and the Pacific Northwest for Calpine.

Douglas M. Davy, Ph.D. – AFC Project Manager - Douglas Davy has 22 years of experience in the environmental consulting industry providing regulatory compliance and project management support for infrastructure development projects. This experience includes National Environmental Policy Act and California Environmental Quality Act compliance for commercial, government, and military clients. He has served as Project Manager for the preparation of Applications for Certification (AFCs) before the California Energy Commission (CEC) for several thermal power plant project cases, including preparation of three 12-month AFCs, two 6-month AFCs, one relicense and combined-cycle conversion AFC, three emergency peaker AFCs, and several AFC amendments.

Copies of their resumes are attached.

- D. **Prior Filings:** In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:
- Sections 1, 2, 3, 4 and 6 of the AFC

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Summary

The LECEF is located within a 21-acre project site that includes the fenced area of the LECEF and the facility's surrounding landscaping. The project site is located within a larger, 34-acre parcel.

The project site is located at 800 Thomas Foon Chew Way in north San Jose. South of the project parcel is State Route 237. To the east is agricultural land, and further east is Coyote Creek. To the north is agricultural land, San Jose/Santa Clara Water Pollution Control Plant (WPCP) buffer land that is open space, and further north are the WPCP's sludge drying

yards and ponds. To the west is undeveloped WPCP buffer land. Zanker Road runs north-south about 2,500 feet west of the LECEF. The PG&E Los Esteros Substation and the Silicon Valley Power (SVP) Switching Station are immediately north of and adjacent to the LECEF.

The project parcel and several surrounding parcels are located within an area designated as Light Industrial in the San Jose General Plan. The area is zoned Planned Development Zoning Project (PDZ). The PDZ zoning was requested and granted by U.S. DataPort for the purpose of constructing a large (2.2 million square-foot) computer server center, including an energy center to provide reliable power and chilled water. The City of San Jose approved the PD zone designation in April 2001. U.S. DataPort and Calpine jointly applied for a revision to the PD zone to include LECEF as the energy source for the data center. The City of San Jose approved the PD zone designation in March 2002. LECEF, LLC has submitted PD Zoning and PD Permit applications to the City of San Jose to address Phase 2 of the LECEF project. Based on information provided by the San Jose Planning Department, it is anticipated that the PD Zoning and PD Permit will go before the San Jose Planning Commission in July 2005 and before the San Jose City Council in August 2005.

As licensed and constructed, the LECEF Phase 1 consists of the following features:

- Four GE LM6000 SPRINT combustion turbine generators (CTGs) with water injection
- Oxidation catalysts and selective catalytic reduction (SCR) pollution control equipment, installed within four HRSG casings and stacks (these casings were installed during Phase 1 in anticipation of a later conversion to combined-cycle)
- A 115-kilovolt-(kV) switchyard
- A 150-foot-long, wood pole transmission line to the Pacific Gas & Electric Company's (PG&E's) 115 kV Los Esteros-Nortech transmission line, immediately to the west of the LECEF switchyard
- A 2,700-foot-long primary access road, named Thomas Foon Chew Way, linking LECEF with Zanker Road
- A 470-foot-long emergency access road, linking Thomas Foon Chew Way and Alviso-Milpitas Road
- A 550-foot-long, 10-inch-diameter natural gas supply line between the facility and PG&E lines 101 and 109
- A 1,500-foot-long recycled water supply line between the facility and the WPCP's recycled water supply pipeline in Zanker Road
- A 2,000-foot-long sanitary sewer discharge line to the City of San Jose's sewer main in Zanker Road.
- A 1,000-foot-long storm water line between the facility and the Coyote Creek high-flow channel to the east. In accordance with existing Conditions of Certification, permit applications are currently in process for construction of a permanent stormwater outfall that extends the drain approximately 250 feet into the low-flow channel of Coyote Creek.
- A 370-horsepower diesel fire pump

LECEF Phase 2 involves a conversion of the existing facility to combined-cycle operation. The resulting facility will have a nominal 320 MW generating capacity. The combined-cycle conversion will be accomplished through the addition of several key components:

- HRSG tubes, evaporator drums, piping and associated equipment (casings for the HRSGs were licensed and installed as part of Phase 1)
- HRSG duct burners
- One nominal 140 MW steam turbine generator
- A deaerating surface condenser
- A six-cell mechanical-draft, plume-abated evaporative cooling tower
- Circulating water pumps
- Boiler feedwater pumps
- Water treatment
- Steam turbine generator step-up transformer
- Electrical equipment enclosure and accessories for combined-cycle configuration
- Cycle blowdown tanks
- Two 115:230 kV step-up transformers

III. Environmental Considerations

Sixteen areas of possible environmental impact from the proposed project were investigated. Detailed descriptions and analyses of these areas are presented in Chapter 8, Sections 8.1 through 8.16 of the AFC. As discussed in detail in Chapter 8, there will be no significant unmitigated environmental impacts associated with the LECEF Phase 2.

Air Quality

I. Introduction

- A. **Name:** Gary Rubenstein
- B. **Purpose:** This testimony addresses the Air Quality issues associated with the proposed project, and presents underlying technical analyses that support portions of the Applicant's public health, visual resources, and biological resources testimony associated with Phase 2 of the LECEF project.
- C. **Gary Rubenstein, B.S., QEP, - Sierra Research.** Mr. Gary Rubenstein is one of the founding partners of Sierra Research. A graduate of Caltech, he is an engineer with an extensive background in the air pollution control field, including all aspects of air quality planning, strategy development and analysis, emission inventory development, emission control system design and evaluation, and automotive emission control design. He is certified as a Qualified Environmental Professional by the Institute for Professional Environmental Practice. Mr. Rubenstein has represented numerous clients in licensing cases before the California Energy Commission. Mr. Rubenstein will sponsor Applicant's testimony in the areas of Air Quality and Public Health.
- D. **Prior Filings:** In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:
- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined-cycle Conversion, dated December 2003, Section 8.1.
 - Supplement in Response to Data Adequacy Comments on the Application for Certification for the Los Esteros Critical Energy Facility, dated February 2004, Section 8.1.
 - Applicant's Response to CEC Staff Data Requests, dated April 30, 2004, Responses to Data Requests 1 through 12.
 - Letter from Gary Rubenstein, Sierra Research, to Dennis Jang, BAAQMD, responding to EPA and CEC Staff comments on the revised PDOC, dated May 11, 2005.
 - Letter from Gary Rubenstein, Sierra Research, to Dennis Jang, BAAQMD, regarding emission reduction credits, dated May 5, 2005
 - Letter from Gary Rubenstein, Sierra Research, to Dennis Jang, BAAQMD, commenting on revised PDOC, dated April 4, 2005.
 - Revised Preliminary Determination of Compliance, Bay Area Air Quality Management District, dated March 14, 2005.
 - E-mail from Gary Rubenstein, Sierra Research, to Gabriel Taylor (et al.), CEC, providing responses to CEC questions, dated February 2, 2005.

- Letter from Gary Rubenstein, Sierra Research, to Steve Hill, BAAQMD, regarding elimination of the proposed PM₁₀ emission increase, dated January 27, 2005.
- Letter from Gary Rubenstein, Sierra Research, to Bob Worl, CEC, regarding elimination of the proposed PM₁₀ emission increase, dated January 27, 2005.
- Letter from Gary Rubenstein, Sierra Research, to Steve Hill, BAAQMD regarding Proposed BACT Determination, dated December 28, 2004.
- Letter from Gary Rubenstein, Sierra Research, to Dennis Jang, BAAQMD, providing comments on the Preliminary Determination of Compliance, dated November 30, 2004.
- Preliminary Determination of Compliance, BAAQMD, dated September 28, 2004.
- Letter from Steve Hill, BAAQMD to Gary Rubenstein, Sierra Research, regarding NOx BACT determination, dated September 28, 2004.
- Letter from Gary Rubenstein, Sierra Research to Steve Hill, BAAQMD, regarding the NOx BACT determination for the combined-cycle gas turbine configuration, dated September 8, 2004.
- Letter from Gary Rubenstein, Sierra Research, to Steve Hill, BAAQMD, regarding NOx Best Available Control Technology Determination, dated August 17, 2004.
- Letter from Gary Rubenstein, Sierra Research, to Dennis Jang, BAAQMD regarding various permit conditions, dated July 8, 2004.
- Letter from Gary Rubenstein, Sierra Research, to Bob Worl, CEC, regarding Revised Cancer Risk Assessment and response to ARB comments, dated July 2, 2004.
- Letter from Gary Rubenstein, Sierra Research, to Steve Hill, BAAQMD, regarding NOx Best Available Control Technology Determination, dated July 2, 2004.
- Letter from Gary Rubenstein, Sierra Research, to Steve Hill, BAAQMD, regarding the proposed modifications to the LECEF facility, dated June 1, 2004.
- Letter from Gary Rubenstein, Sierra Research, to Bob Worl, California Energy Commission, regarding the proposed modifications to the LECEF facility, dated June 1, 2004.
- Cumulative Air Quality Impacts Analysis, dated May 18, 2004.
- Letter from Dennis Jang, BAAQMD to Robert Worl, CEC, regarding completeness determination, dated February 9, 2004.
- Letter from Victor Morales-Lannon, BAAQMD, to Nancy Matthews, Sierra Research, regarding receipt of application, dated January 13, 2004.
- Application to the Bay Area Air Quality Management District for a Determination of Compliance and Authority to Construct Permit Modification at the Los Esteros Critical Energy Facility in San Jose California, dated January 12, 2004.

To the best of my knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are my own. I make these statements, and render these opinions freely and under oath, for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

The proposed licensing conditions related to air quality include those identified in the Final Determination of Compliance issued by the Bay Area Air Quality Management District (Air District), and in the Final Staff Assessment. The Applicant has reviewed these conditions, and with the exceptions noted below, has no substantive objections to any of the conditions at the present time. Most significantly, Applicant objects to the Staff's proposed condition AQ-SC11 which would require replacement of the selective catalytic reduction (SCR) system catalyst in advance of the time that would otherwise be required by BAAQMD permit conditions. Applicant's objections to Staff conditions are discussed in more detail below.

III. Summary

Air pollutant emissions from the proposed Los Esteros Critical Energy Facility (LECEF) Phase 2 will be controlled through the use of the best available pollution control technology. These controls will make LECEF one of the cleanest power generation facilities in the United States. The project will be located in North San Jose, where air quality levels are within most (but not all) air quality standards. The air quality impacts of the LECEF project were evaluated and shown to satisfy all state and federal air quality requirements. Emissions from the project result from operation of the gas turbines used to generate electricity, and from additional supporting equipment.

A. Existing Air Quality

The U.S. Environmental Protection Agency (EPA) and California Air Resources Board have each established ambient air quality standards to protect public health and welfare. Both state and national ambient air quality standards consist of two parts: (1) an allowable concentration of a pollutant, and (2) an averaging time over which the concentration is to be measured. Allowable concentrations are based on the results of studies of the effects of pollutants on human health, crops, and vegetation. The averaging times are based on whether the damage caused by the pollutant is more likely to occur during exposures to a high concentration for a short time (one hour, for instance), or to a relatively lower average concentration over a longer period.

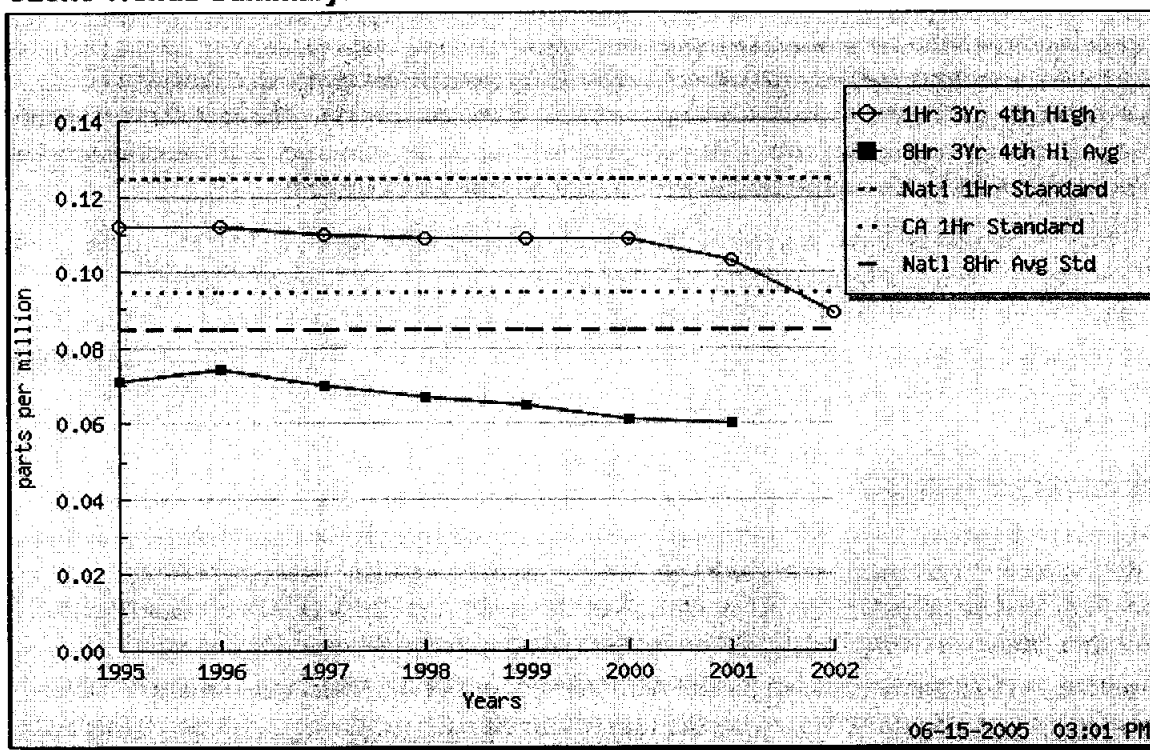
Air quality standards have been set for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, particulate sulfates, and fine particulate matter (PM₁₀). Ambient air quality data for all of these pollutants, except sulfur dioxide and particulate sulfates, are monitored by the Air District on 4th Street in San Jose, approximately seven miles south-southeast of the LECEF site. The nearest monitoring station for sulfur dioxide is in San Francisco. The nearest monitoring station for particulate sulfates is the BAAQMD's Tully Road monitoring station in San Jose. Data from all of these sites were reviewed to evaluate existing air quality at the LECEF location.

Ozone is formed in the atmosphere as a result of complex reactions between reactive organic gases and oxides of nitrogen in the presence of sunlight. Consequently, peak ozone levels are

seen during the summer months, when there is the most sunlight. The state ozone standard has been exceeded on a few days each year at San Jose during the last ten years. After 1995, there have been less than five days per year when the state ozone standard was exceeded. After 1995, there has been only one exceedance of the federal 1-hour average ozone standard, and only one exceedance of the federal 8-hour average ozone standard — both in 1998. In general, ozone levels in the San Jose area have declined over the last ten years, despite the tremendous growth in the area. This trend is shown below in Figure 1, which is taken from the California Air Resources Board's web site.¹ The Staff's contention that ozone levels have been relatively constant over this period is attributable to their evaluation of ozone levels throughout the San Francisco Bay Area Air Basin, rather than in the project area, and their review of individual yearly values which can mask trends that are more apparent when evaluation three-year moving averages.

FIGURE 1

Ozone Trends Summary: San Jose-4th Street



Carbon Monoxide (CO) results from inefficient combustion, principally from motor vehicles and other mobile sources of air pollution. In many areas of California, CO emissions from wood-burning stoves and fireplaces can also be measurable contributors. Industrial sources typically contribute less than ten percent of ambient CO levels. Peak CO levels are usually seen during winter months. There have been no violations of state or federal CO standards measured in San Jose since 1991.

¹ <http://www.arb.ca.gov/adam/cgi-bin/db2www/polltrends.d2w/start>

Nitrogen Dioxide (NO_2) is formed primarily in the air from reactions between nitric oxides and oxygen or ozone. Nitric oxide is formed during high temperature combustion, when nitrogen and oxygen in the air combine. Although nitric oxide is much less harmful than nitrogen dioxide, it can be converted to nitrogen dioxide in the atmosphere within a matter of hours, or even minutes, under certain conditions. There have been no violations of state or federal nitrogen dioxide standards measured in San Jose for over fifteen years.

Sulfur Dioxide (SO_2) is produced when any sulfur-containing fuel is burned. It is also emitted by chemical plants that treat or refine sulfur or sulfur-containing compounds. Natural gas contains negligible amounts of sulfur. Sulfur dioxide levels are not measured in San Jose because there are no significant sources of this pollutant in the area. Sulfur dioxide levels measured at the nearest monitor, in San Francisco, have been well below state and federal air quality standards for over fifteen years.

Particulate Sulfates result from the further oxidation of sulfur dioxide in the atmosphere. Sulfate levels have also been well below state standards during the last twelve years. (There are no federal standards for sulfates.)

Fine Particulate Matter (PM_{10}) in the air is caused by a combination of wind-blown fugitive dust; particles emitted from combustion sources, including wood stoves and fireplaces (usually carbon particles); organic, sulfate and nitrate aerosols formed in the air from emissions of gaseous pollutants, and natural aerosols (such as salts from sea sprays). PM_{10} levels have been below the federal standards, but above the state standards, in the San Jose area over the last ten years. The trend of PM_{10} levels measured in San Jose is shown in Figure 2.

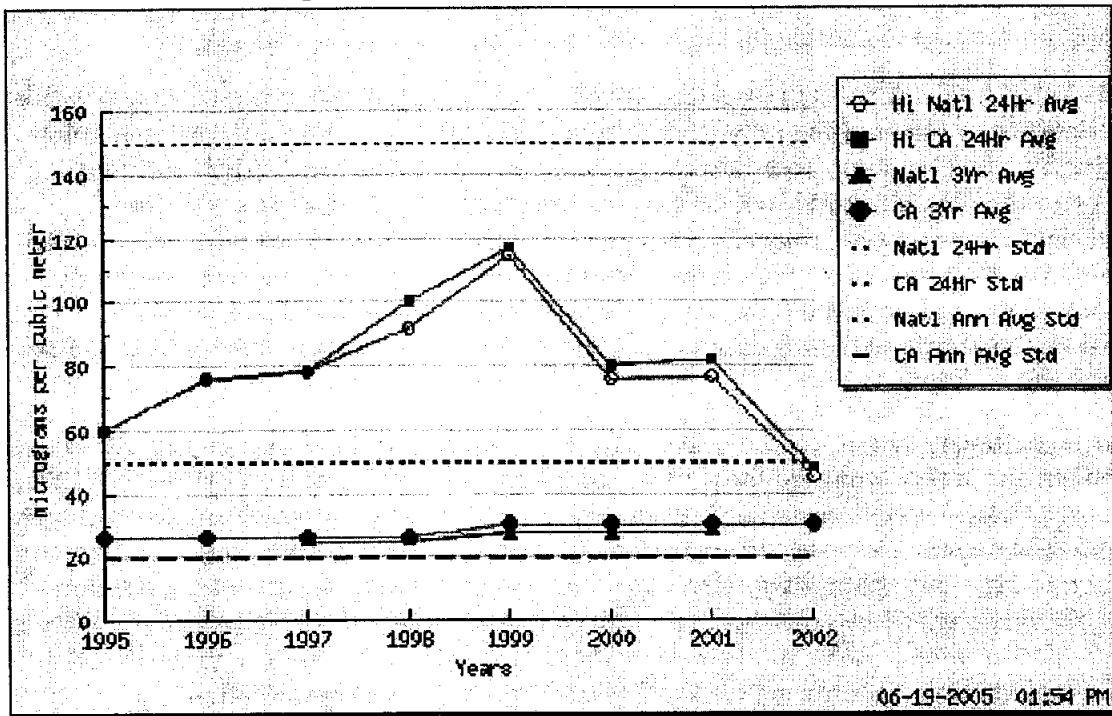
$\text{PM}_{2.5}$ has been monitored at the 4th Street, San Jose, monitoring station since 1999. As shown in the AFC at Table 8.1-8 and Figure 8.1-23, the 98th percentile 24-hour average $\text{PM}_{2.5}$ concentration levels have been declining and are well under the federal standard of $65 \mu\text{g}/\text{m}^3$. The 3-year average of annual arithmetic means declined during the 1990s, but remains about 20 percent lower than the NAAQS for this pollutant ($15 \mu\text{g}/\text{m}^3$), and close to the state annual average standard.

B. Environmental Impacts

Air emissions will result from the continued operation of the simple-cycle gas turbines, inlet air chiller cooling tower, gas-fired emergency generator, and emergency diesel fire pump. Emissions will also be associated with operation of the new duct burners and cooling tower. Air pollutant emissions from the LECEF project are shown in the Revised Preliminary Determination of Compliance issued by the Air District, and in the Staff Assessment.² These emissions have been calculated based on the maximum capacity of the equipment, consistent with operating limits expected to be imposed as permit conditions, and thus represent a worst case. Actual emissions during plant operation are expected to be much lower than the levels shown in the Staff Assessment.

² As of the date of preparation of this testimony, a Final Determination of Compliance has not been issued by the Bay Area AQMD. However, Applicant anticipates that the Final Determination of Compliance will contain conditions substantially similar to those contained in the Revised Preliminary Determination of Compliance.

FIGURE 2

PM10 Trends Summary: San Jose 4th Street**C. Regulatory Requirements**

The project's emissions and air quality impacts are required to comply with various local, state, and federal laws, regulations, and standards. In addition to the California Energy Commission's review, the air quality impacts of the Los Esteros Critical Energy Facility Phase 2 have been reviewed by the Bay Area Air Quality Management District.

The requirements applicable to the Los Esteros Critical Energy Facility Phase 2 include new source review (NSR) requirements, as well as a number of prohibitory rules. (The facility is not subject to Prevention of Significant Deterioration (PSD) review, because maximum allowable emissions are below review levels.) The NSR program applies to the facility as a whole, and is designed to ensure that new projects are developed in a manner that will not interfere with meeting health- and welfare-based ambient air quality standards. Prohibitory rules apply to specific pieces of equipment, rather than to the facility as a whole. They impose specific limits on emissions, including opacity and odors, and are enforced through permit conditions. Compliance with all of these rules is demonstrated in the Application for Certification, and has been confirmed in the Final Determination of Compliance issued by the Air District.

The main air quality requirements applicable to the Los Esteros Critical Energy Facility are summarized below.

- **Best Available Control Technology (BACT):** Emissions of all pollutants will be kept as low as possible by using clean natural gas as the fuel for all equipment. Because natural gas is a clean-burning fuel, emissions of sulfur dioxide (SO₂), precursor organic compounds (POC,

or hydrocarbons), and particulate matter (PM₁₀) will be very low. To minimize emissions of oxides of nitrogen (NO_x), the gas turbines will use water injection. To further reduce NO_x emissions, the gas turbines will also use selective catalytic reduction (SCR) technology. To reduce carbon monoxide emissions, the gas turbines will use oxidation catalysts.

- **Offsets:** Both Air District and Energy Commission rules require that overall air quality does not deteriorate as a result of the project. This goal is achieved by using the best available pollution control technology, and then using emission reductions from other facilities to "offset" or mitigate most emission increases. Pursuant to Air District rules, the net emissions increase from the project is evaluated looking at the forecasted maximum future emissions from the new units. The emissions increases of precursor organic compounds and oxides of nitrogen from the Los Esteros Critical Energy Facility Phase 2 will be mitigated by the purchase of emission reduction credits from offset holders within the Bay Area air basin.
- **Ambient Air Quality Impacts:** The impact of the Los Esteros Critical Energy Facility Phase 2 on ambient air quality was evaluated using dispersion models approved by the U.S. EPA. Worst-case ground-level impacts were assessed for various meteorological and operating conditions (flat terrain, elevated terrain/hillsides, fumigation, shoreline fumigation, startup, part-load and full-load operations). The worst-case ground-level impacts were added to existing (background) concentrations from nearby monitoring stations to determine the total ambient concentrations. These total concentrations were then compared with the ambient air quality standards. As confirmed in the Revised Preliminary Determination of Compliance and Staff Assessment, the project will result in concentrations well below the most stringent air quality standards. Even when combined with existing background levels, the proposed project will not cause a new violation of any state or federal air quality standard. The project will add a small amount (less than ten percent) to existing PM₁₀ and PM_{2.5} concentrations at the point of maximum impact. As discussed further below, although LECEF believes that the PM₁₀ and PM_{2.5} impacts from the project are less than significant, LECEF will provide additional mitigation to address this impact.
- **Screening Health Risk Assessment:** A screening level health risk assessment was performed to evaluate the potential impact of emissions of potentially toxic compounds that result from the combustion of natural gas. This assessment demonstrated that the facility will not pose a significant health risk. The worst-case cancer risk is far below the level of 10 in one million that is considered significant, and is below the level of 1 in one million that triggers additional control technology requirements.
- An analysis was performed of the cumulative air quality impacts of the Los Esteros Critical Energy Facility Phase 2, in conjunction with other existing and proposed air pollution sources in the area. This analysis concluded that these projects would contribute to existing violations of state air quality standards for ozone and PM₁₀, but that the contributions of LECEF to these violations would be mitigated to a less than significant level.

D. Additional Mitigation

In addition to complying with all applicable regulatory requirements, the Los Esteros Critical Energy Facility Phase 2 will provide additional mitigation for PM₁₀ and PM_{2.5} impacts. For this project, PM₁₀ and PM_{2.5} emissions are not subject to emission offset requirements of the Air

District. The PM₁₀ and PM_{2.5} mitigation requirements are reflected in the Final Staff Assessment.

E. Additional Issues

1. Proposed Condition AQ-SC 11 Related to Ammonia Slip

LECEF's main concern with the FSA is the proposed additional requirement that the SCR catalyst be replaced within one year after ammonia slip levels are determined to be in excess of 5 ppm. LECEF believes that there is no technical justification for this requirement, as the FSA fails to establish a significant, adverse environmental impact that warrants mitigation beyond the requirements of the Bay Area AQMD. Further, LECEF believes that the Staff has failed to establish the technical feasibility of such a requirement in this case.

The CEC Staff has proposed Condition AQ-SC11 to require that LECEF replace the selective reduction catalyst (SCR) within 12 months after 24-hour average ammonia concentrations are calculated or measured to exceed a 5 ppm ammonia slip limit. In contrast, the FDOC issued by the BAAQMD has established a 10 ppm ammonia slip limit. In a letter dated April 25, 2005, the CEC Staff proposed to the BAAQMD that the ammonia slip limit be reduced from 10 ppm to 5 ppm in comments on the revised PDOC filed with the District. The BAAQMD reviewed this issue, responded to the CEC Staff's comments, and concluded that a 10 ppm ammonia slip limit is appropriate for this project.

It is undisputed that there is no Best Available Control Technology (BACT) requirement for ammonia emissions; the CEC Staff bases its proposed ammonia slip condition on the need to address environmental impacts under CEQA. However, the CEC Staff presents no technical analysis or credible scientific evidence to support its proposal. Furthermore, it is inappropriate for the CEC Staff to argue that lower ammonia slip levels are needed to address CEQA regarding an air quality issue that has been expressly addressed by the BAAQMD. In addition, LECEF has concerns about the technical feasibility of achieving a 5 ppm slip level given the control technology used with this equipment, in combination with other emission limits imposed on the facility. Finally, even if a 5 ppm ammonia slip level is feasible for the LECEF units, the CEC Staff has failed to evaluate the adverse environmental impacts associated with its proposal. Each of these issues is discussed in more detail below.

a. There is no BACT requirement for ammonia slip in the BAAQMD

BACT in the BAAQMD is required under District Rule 2-2-301. This rule identifies specific pollutants that are subject to BACT requirements; in contrast with other Districts with which the Commission is familiar, such as the South Coast AQMD, the BAAQMD does not regulate ammonia emissions directly. This is not an oversight that warrants correction by the CEC Staff; rather, it is a conscious decision by the regulatory agency charged by the State with protecting air quality in the San Francisco Bay Area. The CEC Staff has not questioned the ammonia slip level from a regulatory perspective.

b. The CEC Staff has presented no credible technical evidence to support its proposed ammonia slip condition

In the Revised PDOC, the BAAQMD has indicated that further control of ammonia emissions, below the 10 ppm level required by the BAAQMD, will not result in any air quality or health

benefits. LECEF anticipates that the BAAQMD will reach the same conclusion in the FDOC. The CEC Staff has not disagreed with any analyses performed by the BAAQMD.

The CEC Staff's argument with respect to the alleged need to reduce ammonia slip emissions is quite simple, and consists of two components:

- Ammonia compounds form particulate matter, and
- The Bay Area is designated as a nonattainment area for state PM₁₀ and PM_{2.5} air quality standards.

The CEC Staff's argument is missing a key element, however: the CEC Staff has not established a cause-and-effect relationship between additional emissions of ammonia and increased PM₁₀ or PM_{2.5} levels in the San Francisco Bay Area Air Basin. As has been discussed before this Commission in numerous cases, ammonia reacts with other compounds (notably sulfur dioxide/sulfates and nitrogen dioxide/nitrates) to form particulate matter. However, it would be sheer coincidence if the concentrations of ammonia, sulfates and nitrates were in such perfect balance that all of the available ions found pairs to form particulate compounds such as ammonium sulfate and ammonium nitrate. In reality, there is always a surplus of one ion or another. Which compounds are in surplus (ammonia or sulfates/nitrates) depends on the geographic region and, in some cases, the time of year. If, for example, ammonia compounds are in surplus, the formation of particulate matter will be limited by the amount of sulfates and nitrates available to react. If the reverse is true, then the formation of particulate matter will be limited by the amount of ammonia in the air. Air pollution control agencies in California perform this analysis, and base their regulatory judgments on the results of this analysis. The CEC Staff has presented no analysis as to which is the case within the BAAQMD. However, the BAAQMD Staff has. The BAAQMD Staff, in its determination on this issue with respect to the East Altamont Energy Center, concluded the following:

"The ammonia emissions resulting from the use of SCR may have another environmental impact through its potential to form secondary particulate matter such as ammonium nitrate. Because of the complex nature of the chemical reactions and dynamics involved in the formation of secondary particulates, it is difficult to estimate the amount of secondary particulate matter that will be formed from the emission of a given amount of ammonia. However, it is the opinion of the Research and Modeling section of the BAAQMD Planning Division that the formation of ammonium nitrate in the Bay Area air basin is limited by the formation of nitric acid and not driven by the amount of ammonia in the atmosphere. Therefore, ammonia emissions from the proposed SCR system are not expected to contribute significantly to the formation of secondary particulate matter within the BAAQMD." (emphasis added. Final Determination of Compliance, East Altamont Energy Center. Bay Area Air Quality Management District. July 10, 2002)

Although the EAEC project's impacts carried into the San Joaquin Valley Air Basin, the SJVAPCD reached the same conclusion as the BAAQMD with respect to ammonia emissions. Maximum annual ammonia emissions from the EAEC were approximately 411 tons/year, a quantity which did not affect the BAAQMD's conclusion. In comparison, the maximum annual ammonia emissions from LECEF are 118 tons/year.

c. The CEC Staff's position is at odds with the only scientifically based analyses relevant for this project.

The CEC Staff's conclusions regarding the need for a 5 ppm ammonia slip limit are completely at odds with the Staff's position in a number of other cases. Table 1 summarizes the ammonia slip limits that have been established in CEC siting decisions since 1999. These projects cover a broad range in time, a broad range in size and combustion technology, and a range of attainment designations.

TABLE 1

Summary of Ammonia Slip Levels in Recent CEC Siting Cases

Case	Project	Decision Date	PM10 Status Federal	PM10 Status State	NH3 Limit FSA	NH3 Limit Decision	Comment
Mojave Desert Air Basin							
High Desert	97-AFC-1	3-May-00	nonattainment	nonattainment	10 ppm	10 ppm	
Blythe	99-AFC-8	21-Mar-01	nonattainment	nonattainment	10 ppm	10 ppm	
North Central Coast Air Basin							
Moss Landing	99-AFC-4	25-Oct-00	attainment	nonattainment	5 ppm	5 ppm	MBUAPCD requirement
Sacramento Valley Air Basin							
Sutter	97-AFC-2	14-Apr-99	attainment	nonattainment	10 ppm	10 ppm	
Three Mountain Power	99-AFC-2	16-May-01	attainment	nonattainment	5 ppm	5 ppm	Applicant proposed 5 ppm level
Cosumnes	01-AFC-19	9-Sep-03	nonattainment	nonattainment	5 ppm	10 ppm	SMAQMD required 10 ppm
Roseville	03-AFC-1	15-Apr-05	attainment	nonattainment	5 ppm	10 ppm	
San Diego Air Basin							
Otay Mesa	99-AFC-5	23-Apr-01	attainment	nonattainment	10 ppm	10 ppm	
Palomar	01-AFC-24	6-Aug-03	attainment	nonattainment	5 ppm	5 ppm	Applicant proposed 5 ppm level
South Central Coast Air Basin							
Morro Bay	00-AFC-12	2-Aug-04	attainment	nonattainment	5 ppm	5 ppm	SLOAPCD requirement
South Coast Air Basin							
Mountainview	00-AFC-2	22-Mar-00	nonattainment	nonattainment	5 ppm	5 ppm	SCAQMD BACT requirement
Magnolia	01-AFC-6	12-Mar-03	nonattainment	nonattainment	5 ppm	5 ppm	SCAQMD BACT requirement
El Segundo	00-AFC-14	2-Feb-05	nonattainment	nonattainment	5 ppm	5 ppm	SCAQMD BACT requirement
Inland Empire	01-AFC-17	17-Dec-03	nonattainment	nonattainment	5 ppm	5 ppm	SCAQMD BACT requirement
San Francisco Bay Area Air Basin							
Los Medanos	98-AFC-1	17-Aug-99	attainment	nonattainment	10 ppm	10 ppm	
Delta	98-AFC-1	9-Feb-00	attainment	nonattainment	10 ppm	10 ppm	
Contra Costa	00-AFC-1	30-May-01	attainment	nonattainment	5 ppm	5 ppm	Applicant proposed 5 ppm level
Metcalf	99-AFC-3	5-Oct-01	attainment	nonattainment	5 ppm	5 ppm	Applicant proposed 5 ppm level
Valero	01-AFC-5	31-Oct-01	attainment	nonattainment	10 ppm	10 ppm	
Los Esteros	01-AFC-12	2-Jul-02	attainment	nonattainment	10 ppm	10 ppm	
Russell City	01-AFC-7	12-Sep-02	attainment	nonattainment	5 ppm	5 ppm	Applicant proposed 5 ppm level
Potrero	00-AFC-4	-	attainment	nonattainment	5 ppm		Applicant proposed 5 ppm level
East Altamont	01-AFC-4	20-Aug-03	attainment	nonattainment	5 ppm	10 ppm	
Von Raesfeld (Pico)	02-AFC-3	9-Sep-03	attainment	nonattainment	10 ppm	10 ppm	
Tesla	01-AFC-21	16-Jun-04	attainment	nonattainment	5 ppm	5 ppm	Applicant proposed 5 ppm level
San Joaquin Valley Air Basin							
La Paloma	98-AFC-2	6-Oct-99	nonattainment	nonattainment	10 ppm	10 ppm	
Pastoria	99-AFC-7	21-Dec-00	nonattainment	nonattainment	10 ppm	10 ppm	
Elk Hills	99-AFC-1	22-Dec-00	nonattainment	nonattainment	10 ppm	10 ppm	
Midway Sunset	99-AFC-9	26-Mar-01	nonattainment	nonattainment	10 ppm	10 ppm	
MID Woodland II	01-SPPE-1	20-Sep-01	nonattainment	nonattainment	10 ppm	10 ppm	
Sunrise II	98-AFC-4C	19-Nov-01	nonattainment	nonattainment	10 ppm	10 ppm	
Tracy	01-AFC-16	18-Jul-02	nonattainment	nonattainment	10 ppm	10 ppm	
San Joaquin Valley	01-AFC-22	14-Jan-04	nonattainment	nonattainment	10 ppm	10 ppm	

This table demonstrates that the CEC Staff has previously taken positions inconsistent with those proposed in this proceeding, and that the CEC Staff is, in fact, capable of performing case-by-case determinations when they need to. However, as shown in the CEC Staff's testimony in the Turlock Irrigation District Walnut Energy Center proceeding, the CEC Staff has now established a "one size fits all" ammonia slip requirement that they seek to impose in every proceeding since 2003.

- Q. With this staff's position that you're recommending, will you be recommending 5 ppm slip for all F class projects in the future throughout California?
- A. I think it's staff's position right now that for combined-cycle projects, nonpeaking projects, we've only had one class 7 peaker that I think that we've actually licensed, or excuse me, one peaker, but I believe that our current idea on how we're going to deal with ammonia is yes, that we are going to try to propose 5 ppm ammonia on all class 7 type projects.
(02-AFC-4, Turlock Irrigation District, Walnut Energy Center. 9/29/03 RT 129:14-25)

Although the Staff's testimony in the WEC proceeding suggested they were going to propose 5 ppm ammonia slip levels for all "class 7 type projects", regardless of a demonstrated need for such levels, it is now clear that the CEC Staff is intending to propose a 5 ppm slip level for all combined-cycle projects, regardless of either demonstrated need or of the capability of the generating technology. As discussed further below, the CEC Staff is now not only eliminating demonstrable air quality benefits as a basis for their proposals, but is also ignoring issues related to technical feasibility.

The Revised Preliminary Determination of Compliance for the LECEF II combined-cycle project was circulated to the California Air Resources Board, U.S. Environmental Protection Agency, and California Energy Commission staff, as well as to the public. Only four comment letters were received by the BAAQMD—from the US EPA, CEC Staff, CARE, and LECEF. Only the letters from the CEC Staff and CARE questioned the 10 ppm ammonia slip level proposed by the BAAQMD; none of the air pollution control agencies questioned this determination.

The CEC Staff has presented no evidence in the LECEF proceedings to support a different conclusion in this case than that reached by the BAAQMD, or for second-guessing the judgment of the air pollution control agencies with principal responsibility for air quality in this region.

In several recent cases—including the East Altamont Energy Center and Turlock Irrigation District Walnut Energy Center—the Commission rejected the CEC Staff's arguments that a 5 ppm slip level should be required, and sustained the opinions of the Applicant, Bay Area AQMD and San Joaquin Valley APCD (Decision, East Altamont Energy Center, 01-AFC-04, p. 142; Decision, Walnut Energy Center, 02-AFC-04, pp. 101, 103). In those cases, the CEC Staff argued that a more stringent ammonia slip level of 5 ppm was necessary because those projects would affect PM₁₀ air quality in the San Joaquin Valley Air Basin—which has PM₁₀ levels in excess of federal (as well as state) air quality standards. Although the Commission rejected the CEC Staff's arguments in the both the EAEC and WEC cases, when alleged contributions to violations of both state and federal particulate air quality standards were at issue, the CEC Staff raises the issue here again with respect to LECEF, when particulate air quality is indisputably better. (The Bay Area is in attainment of federal PM₁₀ and PM_{2.5} air quality standards.)

In the LECEF proceeding, the CEC Staff appears to take the position that even if the Bay Area region is ammonia rich, and even if particulate levels are in attainment of federal standards (although in excess of state standards), further control of ammonia slip would be beneficial. However, this position is diametrically opposed to that taken by the CEC Staff in the San Joaquin Valley Energy Center proceeding in which they stated the following:

"The ammonia emissions from the project would come from the SCR system, which controls the NOx emissions, as unreacted ammonia, or "ammonia slip," that remains in the exhaust after passing through the SCR catalyst system. The San Joaquin Valley, as a result of agricultural ammonia emissions, is ammonia rich, meaning that ammonia is not the limiting reactant for secondary PM₁₀ formation. This means higher ammonia emissions will not necessarily result in additional secondary PM₁₀ formation; however, reducing NOx emissions will almost certainly reduce secondary PM₁₀ formation. While the ammonia emissions are recognized as a necessary by-product of the NOx control system, staff still encourages the Applicant to control their ammonia slip emissions to the lowest possible extent, while maintaining the guaranteed NOx emission limit." (San Joaquin Valley Energy Center, 01-AFC-22, Staff Assessment, p. 4.1-43)

The CEC Staff recommended an ammonia slip limit of 10 ppm in the SJVEC case. The CEC Staff has subsequently argued that their proposed acceptance of a 10 ppm slip limit in the SJVEC proceeding was "a mistake", or was part of "a compromise". However, the above quoted testimony reflects none of that, and presents a reasoned, and correct, analysis of the situation. The facts in the LECEF case are identical – the project area is ammonia rich – and an identical conclusion should be reached: a 10 ppm slip level is acceptable and sufficient to ensure proper operation of the SCR system without resulting in significant adverse air quality or public health impacts.

At p. 4.1-20 of the FSA, the Staff cites the Commission's decision in the Malburg Generation Station case as support for its proposed 5 ppm slip level for LECEF. This is particularly ironic, since the Malburg decision contains the following discussion:

"Ammonia emissions during May to August also have the potential to contribute to secondary PM₁₀ formation. However, in Staff's opinion, any air quality impacts from the ammonia emissions of the MGS alone are too speculative to estimate and may not have the potential to cause or contribute to an exceedance of the short-term or long-term, state or federal ambient air quality standards. Therefore, Staff concluded that the ammonia emissions from the MGS do not have a reasonable expectation of causing or contributing to an exceedance of the ambient air quality standards."

The Applicant is unable to reconcile Staff's position that in the Bay Area, which is a federal attainment area for PM₁₀, ammonia levels will result in significant PM₁₀ impacts, while in the South Coast Air Basin, where the local air district expressly regulates ammonia emissions as a PM₁₀ precursor, the CEC Staff concludes that the contribution of ammonia emissions results in an impact that is "too speculative". Furthermore, the Malburg example is inapplicable to LECEF on a technological basis because the Malburg turbines use dry low NOx combustors, and not water injection, for the first stage of NOx control.

- d. It is inappropriate for the CEC Staff to suggest that CEQA is the basis for imposing a requirement in an area that has been expressly addressed by the responsible agency with expertise in this field.**

The CEC Staff has not contested the BAAQMD's regulatory determinations with respect to ammonia slip (although the CEC Staff sought, in comments filed with the BAAQMD, to change

that determination). Rather, the CEC Staff argues that lower ammonia slip levels should be required under CEQA. However, CEQA does not give the CEC Staff a basis for overruling the determination of a Responsible Agency and for seeking mitigation without regard to the significance of the impact. Rather, CEQA requires mitigation only in the event that a significant, adverse air quality impact has been identified, and such mitigation would serve to reduce that impact. The CEC Staff's analysis with respect to these two critical issues is contained, in its entirety, in the following few sentences:

"In addition, the project will emit ammonia, a PM₁₀ precursor that has the potential to contribute to the existing PM₁₀ problem in the region. Staff believes that measures can be taken to minimize significant secondary PM₁₀ impact by controlling ammonia as much as feasible, as set forth in Condition AQ-SC11. That condition requires the project owner to retrofit or replace the SCR catalyst within one year of the ammonia emissions reaching 5 ppm. This will effectively limit the long-term average emissions to 5 ppm or less, without forcing the facility to initiate maintenance at ammonia emissions levels significantly below 5 ppm. Staff believes this will minimize the contribution of ammonia emissions to secondary PM₁₀ formation."
(LECEF Phase 2 FSA, p. 4.1-34)

This discussion does not contain a demonstration of a significant adverse environmental impact, nor does it provide a basis for concluding that the proposed mitigation would, in fact, mitigate the identified impact.

- e. **LECEF has concerns about the technical feasibility of achieving a 5 ppm slip level given the additional limits that have been imposed on this facility subsequent to construction.**

At p. 4.1-20, the Staff makes the following statements:

"It should be noted that a maximum permitted ammonia slip rate only occurs after significant degradation of the SCR catalyst, usually five years or more after commencing operations. At that point, the SCR catalysts are removed and replaced with new catalysts. During the majority of the operational life of the SCR system, actual ammonia slip will be at 10 to 50 percent of the limit."

In other proceedings before the Commission, I have taken the position that while a 5 ppm ammonia slip level may be technologically feasible, it was not supportable on the basis of a significant, unmitigated air quality impact or a demonstrated ability to mitigate that impact. In the case of LECEF, however, there are additional technological issues that lead me to question the feasibility of such a limit.

The LECEF project was originally licensed based on a NO_x limit of 5.0 ppm, which represented BACT at that time for simple-cycle projects. In anticipation of a conversion to combined-cycle operation, and a lower NO_x BACT level, the facility was designed to achieve a 2.5 ppm NO_x level, 50% below the required level. The original PDOC for the LECEF combined-cycle facility was issued with an indication that BACT was not required, and a proposed NO_x limit of 2.5 ppm.

However, based on comments received from a variety of regulatory agencies, including the CEC Staff, the BAAQMD revised its determination, concluding that BACT was, in fact, required

for the combined-cycle facility, and establishing a BACT requirement for NO_x of 2.0 ppm. LECEF strenuously objected to this determination, questioning the technological feasibility of achieving this level for the specific combustion turbines already in use at LECEF. These concerns were documented in a December 28, 2004 letter to the BAAQMD, which was docketed with the Commission. Specifically, these concerns were related to the fact that the LECEF combustion turbines were in operation, and were equipped with water injection (and not dry low-NO_x combustors) for initial NO_x control. There was (and still is) no documented case of a water-injected LM6000 gas turbine meeting a 2.0 ppm NO_x level on a consistent basis—at any ammonia slip level.

Nonetheless, in response to the concerns of the agencies, LECEF performed an experiment in early December 2004 in which water injection was increased to reduce turbine exhaust NO_x levels. During this test, turbine exhaust NO_x levels were reduced from 25 ppm to 18 ppm, using the maximum amount of water injection that the engine could safely tolerate. It is important to note that the turbine vendor only guarantees a NO_x level of 25 ppm from the turbine to protect the turbine from damage and excessive maintenance requirements. LECEF went beyond that guarantee to determine whether a NO_x level of 2.0 ppm was feasible. Few applicants before the Commission have had the luxury of being able to evaluate the feasibility of new BACT requirements before they are unilaterally imposed.

Based on this experiment, LECEF concluded that achieving a 2.0 NO_x level was, in fact, technologically feasible for these units, and proposed to meet that level even though stack NO_x levels during the experiment never dropped below 2.7 ppm. In our December 28, 2004 letter to the BAAQMD, we indicated that meeting the 2.0 ppm NO_x level was contingent on being able to obtain a higher CO limit (due to the increase in CO emissions associated with increased water injection for NO_x control). Due to the short duration of the test, no assessment of ammonia slip was performed. However, it is certain that performance of the SCR control system will be strained to the maximum to achieve these levels, which go beyond vendor guarantees. Thus, it is not clear that the lower NO_x levels sought by the CEC Staff (and others) can be reliably achieved in the event that lower ammonia slip levels are required at the same time.

f. The CEC Staff has failed to address the adverse environmental impacts associated with a 5 ppm slip level at this facility.

The CEC Staff has argued in other proceedings that a lower ammonia slip level merely requires that an SCR catalyst be replaced with greater frequency, and that a 5 ppm slip level simply translates into an increased operating and maintenance cost. For most other turbines of the type reviewed by the Commission, I might agree. However, the requirement that this project achieve a 2.0 ppm NO_x level with the turbines installed at the site is, in fact, a unique demonstration project for which the above assumption does not hold true.

As indicated above, achieving a 2.0 ppm NO_x level at this site is likely to require operation of the water injection system at rates in excess of the levels warranted by the turbine vendor. During the December 2004 experiment, a NO_x water injection rate of approximately 20,000 lbs/hr was required to meet the vendor-guaranteed NO_x level of 25 ppm. To meet the lower, 18 ppm NO_x level intended to ensure that a 90% efficient SCR system is capable of meeting a 2.0 ppm stack NO_x limit with a 10% compliance margin, the NO_x water injection rate had to be increased by 15%, to approximately 23,000 lbs/hr. Although this may not result in an increase in overall water usage, as water injected for power augmentation may be reduced by a

comparable amount, there are additional, adverse environmental and economic impacts that the Staff has failed to address.

First, and perhaps most significant, is the increase in turbine maintenance costs and required outages. Increased water injection rates result in decreased combustor and nozzle life, requiring more frequent replacement of these components.

Second, the increased water injection rate decreased efficiency by approximately 0.5%. This will result in increased consumption of natural gas, as well as a smaller compliance margin for other pollutants (meaning that there will be a real increase in emissions). To counteract these adverse impacts, LECEF expects to operate the SCR system to its maximum effectiveness, within the limits constrained by the ammonia slip level, to increase combustor life and fuel efficiency. The water injection rate will be gradually raised, as SCR system efficiency declines, until the maximum water injection rate that the engine can safely tolerate has been reached. At that time, the SCR catalyst will be replaced and the cycle started anew.

Given this combination of control technologies and emission limits, a lower ammonia slip level will mean, quite simply, that more water injection will have to be used to reduce turbine NOx emissions throughout the life of the project, resulting in efficiency losses and emission increases of all pollutants. Increased fuel consumption will equal approximately 86,000 MMBtu per year, and increased emissions will be approximately 0.5 tons per year each of NOx and CO, and 0.2 tons per year each of POC and PM. While the emission increases may be small, they are real as compared with the hypothetical benefits associated with the lower ammonia slip level.

At p. 4.1-21, the Staff suggests that its proposed condition AQ-SC11 will also enable the Staff to document the rate of catalyst degradation over the life of the facility. If the Staff wishes to track the rate of catalyst degradation (which is a maintenance and economic concern, and not an environmental issue), the Staff can do so through a review of the continuous emissions monitoring and source test data required to be collected and maintained pursuant to BAAQMD conditions.

2. Additional Comments on the FSA

At p. 4.1-14, the Staff concludes that "there is no convincing evidence of either improvement or degradation of the ambient ozone condition in the basin." The Staff bases this claim on the evaluation of a single statistic – the maximum hourly ozone level experienced anywhere within the basin. In fact, the Bay Area achieved the federal 1-hour average ozone standard in 2004. Furthermore, the number of days in which the state 1-hour ozone standard was exceeded has decreased from an average of 23 days per year in 1995-97 to 14 days per year in 2002-04.

At p. 4.1-17, the Staff states that the BAAQMD has proposed a long-term CO concentration limit of 4.0 ppm on an 8760 hour per year rolling average basis. This is not correct. The Revised PDOC contains a 9.0 ppm CO limit on a 3-hour average basis, and an annual, facility total CO limit of 98.6 tons per year. While it is correct that if the plant were to operate at base load for 8760 hours per year, the annual CO limit would require CO emission levels well below 9.0 ppm, there is no lower concentration limit that is applicable.

At p. 4.1-26, the Staff asserts that LECEF "did not provide an adequate modeling analysis of the project's emissions in combination with the emissions of other existing and probable future projects in the area, as required by siting regulations." This is not correct. The cumulative impacts analysis was provided to the Commission on May 18, 2004. Using the methodology

contained in the AFC, LECEF determined that only the Pico Power Project had the potential for cumulative impacts with LECEF. The dispersion modeling analysis evaluating the combined impacts of LECEF and the Pico Power Project is summarized in that document in Table AQ-CUM-6.

F. Conclusion

The Los Esteros Critical Energy Facility Phase 2 has been designed to have extremely low emission rates and minimal environmental impacts. It will be one of the cleanest power plants in the United States, with state-of-the-art design features and emission control capabilities. Remaining increases in emissions of NO_x and hydrocarbons will be offset at a ratio of at least one to one, so that the emission reductions provided as mitigation will be greater than the project's emission increases, thus ensuring a net benefit to regional air quality.

With the implementation of the above mitigation measures, and in combination with the proposed conditions of certification contained in the Staff Assessment, the project will comply with all applicable federal, state and local laws, ordinances, regulations and standards, and remaining potential impacts, if any, are mitigated to a level that is less than significant.

Alternatives

I. Introduction

- A. **Name:** Rick Tetzloff, B.S. M.E., P.E., and Douglas Davy, Ph.D.
- B. **Purpose:** This testimony addresses Alternatives issues associated with Phase 2 of the LECEF project.
- C. ***Rick Tetzloff, B.S.M.E., P.E., - Calpine Corporation.*** Mr. Rick Tetzloff is the Project Development Manager for the Los Esteros Critical Energy Facility. In addition to the LECEF project, Mr. Tetzloff has worked on numerous power plant development projects in California and the Pacific Northwest for Calpine.

Douglas M. Davy, Ph.D. – AFC Project Manager - Douglas Davy has 22 years of experience in the environmental consulting industry providing regulatory compliance and project management support for infrastructure development projects. This experience includes National Environmental Policy Act and California Environmental Quality Act compliance for commercial, government, and military clients. He has served as Project Manager for the preparation of Applications for Certification (AFCs) before the California Energy Commission (CEC) for several thermal power plant project cases, including preparation of three 12-month AFCs, two 6-month AFCs, one relicense and combined-cycle conversion AFC, three emergency peaker AFCs, and several AFC amendments.

Copies of their resumes are attached.

- D. **Prior Filings:** In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:
- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined-cycle Conversion, dated December 2003, Section 9.

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

There are no Conditions of Certification related to Alternatives.

Biological Resources

I. Introduction

- A. **Name:** Rick Tetzloff, B.S. M.E., P.E., and Douglas Davy, Ph.D.
- B. **Purpose:** This testimony addresses Biologic Resources issues associated with Phase 2 of the LECEF project.
- C. **Qualifications:** *Rick Tetzloff, B.S.M.E., P.E., - Calpine Corporation.* Mr. Rick Tetzloff is the Project Development Manager for the Los Esteros Critical Energy Facility. In addition to the LECEF project, Mr. Tetzloff has worked on numerous power plant development projects in California and the Pacific Northwest for Calpine.

Douglas M. Davy, Ph.D. – AFC Project Manager - Douglas Davy has 22 years of experience in the environmental consulting industry providing regulatory compliance and project management support for infrastructure development projects. This experience includes National Environmental Policy Act and California Environmental Quality Act compliance for commercial, government, and military clients. He has served as Project Manager for the preparation of Applications for Certification (AFCs) before the California Energy Commission (CEC) for several thermal power plant project cases, including preparation of three 12-month AFCs, two 6-month AFCs, one relicense and combined-cycle conversion AFC, three emergency peaker AFCs, and several AFC amendments.

Copies of their resumes are attached.

- D. **Prior Filings:** In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:
- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined-cycle Conversion, dated December 2003, Section 8.2.
 - Supplement in Response to Data Adequacy Comments on the Application for Certification for the Los Esteros Critical Energy Facility, dated February 2004, Section 8.2.
 - Applicant's Response to CEC Staff Data Requests, dated April 30, 2004, Responses to Data Requests 13 through 29.
 - Low Effect Habitat Conservation Plan For Bay Checkerspot Butterfly and Serpentine Endemic Plant Species, dated May 26, 2005.

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

The Phase 2 FSA for the project filed by the CEC recommends that 22 Conditions of Certification be adopted to address biological resource issues. These conditions BIO-1 through BIO-22 address applicable federal, state, and local laws, ordinances, regulations, and standards and minimize the project's biological resource impacts. We have reviewed the Conditions of Certification set forth in the FSA and find them to be acceptable.

III. Summary

Phase 2 of the LECEF will involve the addition of a steam turbine, HRSG equipment, a six-cell cooling tower, and ancillary equipment. All new construction associated with the Phase 2 conversion to combined-cycle will occur at the LECEF project site within the facility fenceline. Construction will not cause any significant impacts to biological resources because there are no significant biological resources within the construction area of potential effects.

A. Phase 2 Construction

Temporary construction parking and laydown areas will be designated within the project site. In addition, the 13-acre area located immediately south of the LECEF will be used for construction laydown and parking during Phase 2 construction. This area has recently been graded and is devoid of vegetation and does not, therefore, qualify as wildlife habitat or raptor foraging habitat.

Noise levels associated with construction activities for power plant construction are described in Section 8.7 of the AFC. The loudest activities would include steam blows and pile driving and the loudest composite noise levels would be expected to reach 89 dBA. The loudest equipment noise levels could reach a maximum of 95-110 dBA in short spikes. However, as Coyote Creek is the closest sensitive habitat and is approximately 700-1000 feet east of the project site, and since Phase 2 construction will be entirely confined to the existing project site within the existing sound walls, construction noise will be greatly reduced. Estimated noise levels at Coyote Creek from construction activities would be approximately 65 dBA. Thus, noise associated with construction of Phase 2 would not cause significant adverse impacts.

B. Phase 2 Operation

The following topic areas were evaluated to determine if Phase 2 operation could have adverse effects to biological resources:

- Cooling tower drift effects on vegetation
- Noise from operation of the LECEF
- Stormwater runoff to Coyote Creek
- Nitrogen deposition near Coyote Ridge

1. Cooling Tower Drift

With the addition of a six-cell cooling tower, the maximum salt concentration is expected to increase from 0.53 ug/m³ to 1.49 ug/m³. Thus, the expected deposition rate from Phase 2

cooling tower drift will be 0.94 g/m²/year. This increased deposition rate is still under the levels expected to cause barely perceptible effects to the most sensitive crop plants (2.98 g/m²/year).

2. Noise from Plant Operations

Operation of the LECEF under Phase 2 is expected to result in a slight increase in operational noise over Phase 1. Noise modeling as shown in Section 8.7 indicates that operational noise associated with Phase 2 will be limited to approximately 60 dBA L_{dn} at the nearest sensitive habitat, the Coyote Creek corridor. This is significantly below the levels that would cause disturbance to wildlife. These levels do not exceed the limit of 60 L_{dn} required to meet the Phase 1 CEC Condition of Certification for noise levels in the Coyote Creek Corridor necessary to meet the City of San Jose's zoning ordinance for open space and agricultural areas.

3. Storm Water Discharge

Storm water discharge into Coyote Creek from the project site will not be significantly different under Phase 2. The existing stormwater channels inside the project site will be used and storm water will continue to be discharged via the 24-inch pipeline. A permanent storm water outfall to Coyote Creek will be constructed in summer of 2004 or 2005 under the existing Phase 1 license. This outfall is being permitted as part of the original Phase 1 licensing proceeding. Erosion and sediment control Best Management Practices will continue to be implemented at the plant site and at the discharge end of the pipeline.

4. Nitrogen Deposition

Operation of LECEF Phase 2 is expected to produce nitrogen emissions that represent an increase of approximately 15 percent over existing levels. Though Phase 2 operation would cause an increase in nitrogen deposition, the connection between nitrogen deposition from power plants and the potential degradation of the Bay checkerspot butterfly's habitat is not clearly. Furthermore, the conservative nature of the previous Phase 1 nitrogen deposition analysis and the provision of environmental enhancement in the absence of a clear significant impact suggests that even with this increase in nitrogen deposition from Phase 2, there will be no significant, unmitigated impacts. As an environmental enhancement, the Applicant has implemented a conservation program to participate in reducing the potential harm to the Bay checkerspot butterfly and other endemic species that reside in the serpentine bunchgrass ecosystem. The Applicant has purchased 40 acres of critical serpentine bunchgrass ecosystem habitat in the Coyote Ridge area, has dedicated this land to the Land Trust for Santa Clara County and has established an endowment fund to manage the donated land in perpetuity for the conservation of these sensitive species. In addition, Applicant has prepared and submitted a Low-Effect Habitat Conservation Plan to the U.S. Fish and Wildlife Service. Applicant will keep CEC Staff apprised of the progress of this HCP. With the purchase, dedication and provision of an endowment for the 40 acres of serpentine habitat, operation of LECEF Phase 2 would not cause a significant adverse impact to serpentine bunchgrass ecosystem and the Bay checkerspot butterfly because of nitrogen deposition.

Cultural Resources

I. Introduction

- A. **Name:** Rick Tetzloff, B.S. M.E., P.E., and Douglas Davy, Ph.D.
- B. **Purpose:** This testimony addresses Cultural Resources issues associated with Phase 2 of the LECEF project.
- C. **Qualifications:** *Rick Tetzloff, B.S.M.E., P.E., - Calpine Corporation.* Mr. Rick Tetzloff is the Project Development Manager for the Los Esteros Critical Energy Facility. In addition to the LECEF project, Mr. Tetzloff has worked on numerous power plant development projects in California and the Pacific Northwest for Calpine.

Douglas M. Davy, Ph.D. – AFC Project Manager - Douglas Davy has 22 years of experience in the environmental consulting industry providing regulatory compliance and project management support for infrastructure development projects. This experience includes National Environmental Policy Act and California Environmental Quality Act compliance for commercial, government, and military clients. He has served as Project Manager for the preparation of Applications for Certification (AFCs) before the California Energy Commission (CEC) for several thermal power plant project cases, including preparation of three 12-month AFCs, two 6-month AFCs, one relicense and combined-cycle conversion AFC, three emergency peaker AFCs, and several AFC amendments.

Copies of their resumes are attached.

- D. **Prior Filings:** In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:
- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined-cycle Conversion, dated December 2003, Section 8.3.
 - Supplement in Response to Data Adequacy Comments on the Application for Certification for the Los Esteros Critical Energy Facility, dated February 2004, Section 8.3.
 - Applicant's Response to CEC Staff Data Requests, dated April 30, 2004, Responses to Data Requests 30 through 33.

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

The FSA for the project filed by the CEC recommends that 11 Conditions of Certification be adopted to address cultural resource issues. These conditions, CUL-1 to CUL-11 address applicable federal, state, and local laws, ordinances, regulations, and standards and minimize the project's cultural resource impacts. We have reviewed the Conditions of Certification set forth in the FSA and find them to be acceptable.

III. Summary

Construction of the Phase 2 combined-cycle facilities at LECEF will involve some excavation and ground disturbance within the existing LECEF project site. It will also involve some surface disturbance in the adjacent 13-acre construction parking and laydown area.

There are no known archaeological or historical sites, historic buildings or structures, or traditional cultural properties within the LECEF facility boundary or near the project site, its proposed laydown area, or linear appurtenances. In addition, an extensive subsurface mechanical testing program (40 backhoe trenches within the project site and 32 trenches along the natural gas pipeline and access road/water pipeline) produced negative results. For this reason, construction of the LECEF will have no effect on known cultural resources and is unlikely to have any effect on previously unknown (buried) cultural resources.

Facility Design, Power Plant Reliability, and Power Plant Efficiency

I. Introduction

- A. **Name:** Rick Tetzloff, B.S. M.E., P.E., and Douglas Davy, Ph.D.
- B. **Purpose:** This testimony addresses Facility Design, Power Plant Reliability, and Power Plant Efficiency issues associated with Phase 2 of the LECEF project.
- C. **Qualifications:** *Rick Tetzloff, B.S.M.E., P.E., - Calpine Corporation.* Mr. Rick Tetzloff is the Project Development Manager for the Los Esteros Critical Energy Facility. In addition to the LECEF project, Mr. Tetzloff has worked on numerous power plant development projects in California and the Pacific Northwest for Calpine.

Douglas M. Davy, Ph.D. – AFC Project Manager - Douglas Davy has 22 years of experience in the environmental consulting industry providing regulatory compliance and project management support for infrastructure development projects. This experience includes National Environmental Policy Act and California Environmental Quality Act compliance for commercial, government, and military clients. He has served as Project Manager for the preparation of Applications for Certification (AFCs) before the California Energy Commission (CEC) for several thermal power plant project cases, including preparation of three 12-month AFCs, two 6-month AFCs, one relicense and combined-cycle conversion AFC, three emergency peaker AFCs, and several AFC amendments.

Copies of their resumes are attached.

- D. **Prior Filings:** In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:
- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined-cycle Conversion, dated December 2003, Sections 2, 5, 6, 7 and 10.
 - Supplement in Response to Data Adequacy Comments on the Application for Certification for the Los Esteros Critical Energy Facility, dated February 2004, Sections 1.0 and 2.0.

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

The FSA for the project filed by the CEC recommends that 20 Conditions of Certification be adopted to address facility design issues. These conditions, GEN-1 through GEN-8, CIVIL-1 through CIVIL-4, STRUC-1 through STRUC-4, MECH-1 through MECH-3, and ELECT-1 address applicable federal, state, and local laws, ordinances, regulations, and standards and minimized the project's construction impacts. We have reviewed the Conditions of Certification set forth in the FSA and find them to be acceptable. There are no Conditions of Certification addressing power plant efficiency or power plant reliability.

III. Summary

With the proposed Conditions of Certification contained in the Final Staff Assessment, the project will comply with all applicable federal, state and local laws, ordinances, regulations and standards, and remaining potential impacts, if any, are mitigated to a level that is less than significant.

General Conditions-Compliance Monitoring and Closure Plan

I. Introduction

- A. **Name:** Rick Tetzloff, B.S. M.E., P.E., and Douglas Davy, Ph.D.
- B. **Purpose:** This testimony addresses General Conditions Including Compliance Monitoring and Closure Plan issues associated with Phase 2 of the LECEF project.
- C. **Qualifications:** *Rick Tetzloff, B.S.M.E., P.E., - Calpine Corporation.* Mr. Rick Tetzloff is the Project Development Manager for the Los Esteros Critical Energy Facility. In addition to the LECEF project, Mr. Tetzloff has worked on numerous power plant development projects in California and the Pacific Northwest for Calpine.

Douglas M. Davy, Ph.D. – AFC Project Manager - Douglas Davy has 22 years of experience in the environmental consulting industry providing regulatory compliance and project management support for infrastructure development projects. This experience includes National Environmental Policy Act and California Environmental Quality Act compliance for commercial, government, and military clients. He has served as Project Manager for the preparation of Applications for Certification (AFCs) before the California Energy Commission (CEC) for several thermal power plant project cases, including preparation of three 12-month AFCs, two 6-month AFCs, one relicense and combined-cycle conversion AFC, three emergency peaker AFCs, and several AFC amendments.

Copies of their resumes are attached.

- D. **Prior Filings:** In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:
- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined-cycle Conversion, dated December 2003, Section 4.

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

The FSA for the project filed by the CEC recommends that 14 Conditions of Certification be adopted to address general conditions including compliance monitoring and closure plan issues. These conditions, COM-1 through COM-14 address applicable federal, state, and local laws, ordinances, regulations, dealing with general compliance issues and closure. We

have reviewed the Conditions of Certification set forth in the FSA and, with the exception of COM-8, find them to be acceptable.

In January 2005, the Preliminary Staff Assessment for the LECEF proceeding proposed a new condition regarding the security of the facility. Condition COM-8 required the Project Owner to develop an "Operation Security Plan". The Operation Security Plan was required to include "one or more of the following in order to ensure adequate perimeter security:

1. security guards;
2. security alarm for critical structures;
3. perimeter breach detectors and on-site motion detectors; and
4. video or still camera monitoring system."

Three months later, the Commission adopted a decision relicensing the existing facility. This decision adopted the language proposed in the PSA regarding perimeter security. As required by this condition, the LECEF facility is protected by one or more of the above security measures.

The Phase 2 FSA, however, contains a different proposed condition regarding perimeter security. This proposed condition would require the Operation Security Plan to include either:

- a. guards on-site 24 hours per day, 7 days per week or
- b. operations staff on-site 24 hours per day 7 days per week **plus** all of the following:
 - The entire power plant perimeter is protected by a chain-link fence topped with barbed or concertina wire.
 - The site is equipped with security cameras that can zoom, have low-light function, and are recorded, viewed, and controlled from the power plant control room and which are positioned such that they cover 100% of the perimeter fenceline, the aqueous ammonia storage tank, and the entrance to the control room.
 - Perimeter breach detectors (either infrared or microwave) that are placed inside along the entire perimeter fence and report to the control room.

Although this condition is substantially different from the condition proposed in the PSA and adopted in the Phase I decision, the FSA provides no explanation or justification for these new conditions.

The LECEF is an existing facility in full compliance with the security perimeter provisions in the existing license. Also, requiring a chain-link fence topped with barbed or concertina wire is contradictory with the existing Phase 1 conditions of certification for visual resources since three sides of the facility were required to have an architectural sound wall topped with wood lattice. The proposed conversion to combined cycle will be accomplished entirely within the existing fenceline. No changes to the perimeter are proposed in our application. Moreover, there is nothing in the addition of a combined cycle that is inherently more dangerous or that would require a significant change in the perimeter protection measures now in place. If any changes are made to the security plan for this facility, such changes should be made only as the result of an appropriate risk and should

not be made on a generic basis without regard to the nature and circumstances of the existing facility.

For these reasons, we request that the Staff delete that portion of COM-8 proposed in the FSA that applies to perimeter security, and use instead, the language of the existing Phase 1 license.

III. Summary

With the proposed Conditions of Certification contained in the Final Staff Assessment, as revised herein, the project will comply with all applicable federal, state and local laws, ordinances, regulations and standards, and remaining potential impacts, if any, are mitigated to a level that is less than significant.

Geology and Paleontological Resources

I. Introduction

- A. **Name:** Rick Tetzloff, B.S. M.E., P.E., and Douglas Davy, Ph.D.
- B. **Purpose:** This testimony addresses Geology and Paleontological issues associated with Phase 2 of the LECEF project.
- C. **Qualifications:** *Rick Tetzloff, B.S.M.E., P.E., - Calpine Corporation.* Mr. Rick Tetzloff is the Project Development Manager for the Los Esteros Critical Energy Facility. In addition to the LECEF project, Mr. Tetzloff has worked on numerous power plant development projects in California and the Pacific Northwest for Calpine.

Douglas M. Davy, Ph.D. – AFC Project Manager - Douglas Davy has 22 years of experience in the environmental consulting industry providing regulatory compliance and project management support for infrastructure development projects. This experience includes National Environmental Policy Act and California Environmental Quality Act compliance for commercial, government, and military clients. He has served as Project Manager for the preparation of Applications for Certification (AFCs) before the California Energy Commission (CEC) for several thermal power plant project cases, including preparation of three 12-month AFCs, two 6-month AFCs, one relicense and combined-cycle conversion AFC, three emergency peaker AFCs, and several AFC amendments.

Copies of their resumes are attached.

- D. **Prior Filings:** In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:
- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined-cycle Conversion, dated December 2003, Sections 8.4 and 8.8.
 - Supplement in Response to Data Adequacy Comments on the Application for Certification for the Los Esteros Critical Energy Facility, dated February 2004, Sections 8.4 and 8.8.

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

The FSA for the project filed by the CEC recommends that 6 Conditions of Certification be adopted to address paleontological issues. These conditions, PAL-1 through PAL-6 address applicable federal, state, and local laws, ordinances, regulations, and standards dealing with geology and paleontological resources. We have reviewed the Conditions of Certification set forth in the FSA and find them to be acceptable.

III. Summary

Ground shaking presents the most significant geologic hazard to the project site. Mitigation measures contained in the proposed Conditions of Certification will be implemented in the design of the Phase 2 equipment and systems to reduce risk associated with these hazards.

Construction within the existing LECEF facility will require some excavation. However, since the project site has already been graded there will be no alteration of the existing terrain. Impacts to the geologic conditions involve dust generation, changes in drainage, cuts, and fills. Since the project site is generally level, grading is not expected to adversely impact the geologic environment.

No significant mineral resources are present in the project site vicinity.

Excavations for the cooling tower and steam turbine generator for Phase 2 combined-cycle conversion have the potential to encounter Pleistocene deposits in which significant fossils could be found. Monitoring for construction of LECEF Phase 1 did not identify any vertebrate fossils, although various gastropod and plant fossils were collected. Fossils found during construction would be considered significant if they were to meet the following criteria:

- Provide important information on the evolutionary trends among organisms, relating living organisms to extinct organisms
- Provide important information regarding development of biological communities or interaction between botanical and zoological biota
- Demonstrate unusual circumstances in biotic history
- In short supply and in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic localities.

Hazardous Materials Management

I. Introduction

- A. **Name:** Rick Tetzloff, B.S. M.E., P.E., and Douglas Davy, Ph.D.
- B. **Purpose:** This testimony addresses Hazardous Materials Management issues associated with Phase 2 of the LECEF project
- C. **Qualifications:** *Rick Tetzloff, B.S.M.E., P.E., - Calpine Corporation.* Mr. Rick Tetzloff is the Project Development Manager for the Los Esteros Critical Energy Facility. In addition to the LECEF project, Mr. Tetzloff has worked on numerous power plant development projects in California and the Pacific Northwest for Calpine.

Douglas M. Davy, Ph.D. – AFC Project Manager - Douglas Davy has 22 years of experience in the environmental consulting industry providing regulatory compliance and project management support for infrastructure development projects. This experience includes National Environmental Policy Act and California Environmental Quality Act compliance for commercial, government, and military clients. He has served as Project Manager for the preparation of Applications for Certification (AFCs) before the California Energy Commission (CEC) for several thermal power plant project cases, including preparation of three 12-month AFCs, two 6-month AFCs, one relicense and combined-cycle conversion AFC, three emergency peaker AFCs, and several AFC amendments.

Copies of their resumes are attached.

- D. **Prior Filings:** In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:
- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined-cycle Conversion, dated December 2003, Section 8.5.

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

The FSA for the project filed by the CEC recommends that 6 Conditions of Certification be adopted to address hazardous materials management issues. These conditions, HAZ-1 through HAZ-6 address applicable federal, state, and local laws, ordinances, regulations, and standards dealing with hazardous materials management issues. We have reviewed the Conditions of Certification set forth in the FSA and find them to be acceptable.

III. Summary

A. Construction Phase

During Phase 2 construction, hazardous materials stored onsite will include small quantities of solvents, cleaners, sealants, lubricants, and 5-gallon emergency fuel containers. This section describes measures that will be taken to mitigate potential risks from hazardous material usage. Solvents, cleaners, sealants, and lubricants will be stored in a locked utility building, handled per the manufacturers' directions, and replenished as needed. The emergency fuel containers will be Department of Transportation (DOT)-approved 5-gallon safety containers secured to the construction equipment. The emergency fuel will be used when regular vehicle fueling is unavailable.

Regular fueling and oiling of construction equipment will be performed daily to reduce the potential for accidental releases. Fuel, oil, and hydraulic fluids will be transferred directly from a service truck to construction equipment tanks and will not otherwise be stored onsite. Fueling will be performed by designated, trained service personnel either before or at the end of the workday. Service personnel will follow standard operating procedures (SOPs) for filling and servicing construction equipment and vehicles. The SOPs, which are designed to reduce the potential for incidents involving the hazardous materials, include the following:

- Refueling and maintenance of vehicles and equipment will occur only in designated areas that are either bermed or covered with concrete or asphalt to control potential spills
- Vehicle and equipment service and maintenance will be conducted only by authorized personnel.
- Refueling will be conducted only with approved pumps, hoses, and nozzles
- Catch-pans will be placed under equipment to catch potential spills during servicing
- All disconnected hoses will be placed in containers to collect residual fuel from the hose
- Vehicle engines will be shut down during refueling
- No smoking, open flames, or welding will be allowed in refueling or service areas
- Refueling will be performed away from bodies of water to prevent contamination of water in the event of a leak or spill
- When refueling is completed, the service truck will leave the project site
- Service trucks will be provided with fire extinguishers and spill containment equipment, such as absorbents
- Should a spill contaminate soil, the soil will be put in containers and disposed of as a hazardous waste
- All containers used to store hazardous materials will be inspected at least once per week for signs of leaking or failure. All maintenance and refueling areas will

be inspected monthly. Results of inspections will be recorded in a logbook that will be maintained onsite

Small spills will be contained and cleaned up immediately by trained, onsite personnel. Larger spills will be reported via emergency phone numbers to obtain help from offsite containment and cleanup crews. All personnel working on the project during the construction phase will be trained in handling hazardous materials and the dangers associated with hazardous materials. An onsite health and safety person will be designated to implement health and safety guidelines and contact emergency response personnel and the local hospital, if necessary.

B. Operation Phase

During Phase 2 combined-cycle operations, hazardous materials and one acutely hazardous material will be stored onsite. Listed below are mitigation measures for minimizing the risks of hazardous material handling during facility operation.

1. Aqueous Ammonia

Aqueous ammonia will be used in an SCR process to control NO_x emissions created from combustion in the combustion turbines and duct burners. The SCR system will include a reactor chamber, catalyst modules, ammonia storage system, and ammonia injection system. The aqueous ammonia, stored as a liquid solution of 19 percent ammonia and 81 percent water, will be injected into the reactor chamber. The rate of injection will be controlled by a monitoring system that uses sensors to determine the correct quantity of ammonia to feed to the reactor chamber. The reactor chamber will contain the catalyst modules and be located in a temperature zone of each HRSG, where the catalyst will be most effective at the desired levels of plant operation.

The aqueous ammonia storage tanks will be equipped with continuous tank level monitors, temperature and pressure monitors and alarms, and excess flow and emergency block valves. Containment will be provided; if there is an inadvertent release from the storage tank, the liquid will be contained within the secondary containment structure. The San Jose Fire Code requires that secondary containment be able to retain the spill from the largest single container or, in the case of multiple containers, 150 percent of the volume of the largest container, or 10 percent of the aggregate volume of all containers, whichever is greater. In addition, when a tank is outside, the secondary containment must also be able to contain 24 hours of rainfall from a 25-year storm. Vapor detection equipment will be installed to detect escaping ammonia.

For Phase 2 operations, the ammonia delivery rate will be approximately one 6,500-gallon delivery every 7 to 14 days.

2. Cyclohexylamine

Cyclohexylamine (an acutely hazardous material), in the form of NALCO 356, will be fed into the condensate piping to control corrosion. The feed equipment will consist of a storage tank, pumps, leak detection system, alarm system, and a fire detection and protection system. The chemical will be stored in a 400-gallon tank that will be located at the cycle chemical feed building. The tank will be located above concrete, epoxy-lined containment areas with enough capacity to contain the full quantity of a tank in the event of

a spill or tank rupture. If exposed to rainfall, the containment areas will be sized additionally to contain the accumulated rainfall for 24 hours from a 25-year storm.

3. Other Hazardous Materials

All hazardous materials will be handled and stored in accordance with applicable codes and regulations. Mitigation measures will include paving and berming areas that are susceptible to potential leaks and/or spills. Wherever possible, double-walled piping will be used to minimize potential releases from ruptured piping. Piping and tanks will be protected from potential traffic hazards by concrete or pipe-type traffic bollards and barriers.

A worker safety plan, in compliance with applicable regulations, will be implemented. It will include training for contractors and operations personnel. Training programs will include safe operating procedures, the operation and maintenance of hazardous materials systems, proper use of PPE, fire safety, and emergency communication and response procedures. All plant personnel will be trained in emergency procedures, including plant evacuation and fire prevention. In addition, designated personnel will be trained as members of a plant hazardous material response team; team members will receive the first responder and hazardous material technical training to be developed in the HMBP. However, in the event of an emergency, plant personnel will defer to the City of San Jose Hazardous Incidence Team (HIT) at San Jose Fire Station No. 29 (199 Innovation Drive). Fire Station No. 29 and the HIT are approximately two miles away in northern San Jose, between Highways 101 and 880. For large spills, cities and counties provide mutual assistance. Santa Clara County will be the most likely second or backup responder.

Land Use

I. Introduction

- A. **Name:** Rick Tetzloff, B.S. M.E., P.E., and Douglas Davy, Ph.D.
- B. **Purpose:** This testimony addresses Land Use issues associated with Phase 2 of the LECEF project
- C. **Qualifications:** *Rick Tetzloff, B.S.M.E., P.E., - Calpine Corporation.* Mr. Rick Tetzloff is the Project Development Manager for the Los Esteros Critical Energy Facility. In addition to the LECEF project, Mr. Tetzloff has worked on numerous power plant development projects in California and the Pacific Northwest for Calpine.

Douglas M. Davy, Ph.D. – AFC Project Manager - Douglas Davy has 22 years of experience in the environmental consulting industry providing regulatory compliance and project management support for infrastructure development projects. This experience includes National Environmental Policy Act and California Environmental Quality Act compliance for commercial, government, and military clients. He has served as Project Manager for the preparation of Applications for Certification (AFCs) before the California Energy Commission (CEC) for several thermal power plant project cases, including preparation of three 12-month AFCs, two 6-month AFCs, one relicense and combined-cycle conversion AFC, three emergency peaker AFCs, and several AFC amendments.

Copies of their resumes are attached.

- D. **Prior Filings:** In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:
- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined-cycle Conversion, dated December 2003, Section 8.6.
 - Applicant's Response to CEC Staff Data Requests, dated April 30, 2004, Responses to Data Requests 34 and 35.

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

There are no Conditions of Certification for land use.

III. Summary

Potential impacts to land use for the Phase 2 combined-cycle conversion have been evaluated by comparing project characteristics with the regional and local land use environment. Phase 2 combined-cycle conversion will not affect the character of the surrounding project area and the new facilities are to be installed entirely inside of the project's fenceline. The Phase 2 portion of the project will not have a significant land use impact on the surrounding area.

Noise and Vibration

I. Introduction

- A. **Name:** Rick Tetzloff, B.S. M.E., P.E., and Douglas Davy, Ph.D.
- B. **Purpose:** This testimony addresses Noise and Vibration issues associated with Phase 2 of the LECEF project.
- C. **Qualifications:** *Rick Tetzloff, B.S.M.E., P.E., - Calpine Corporation.* Mr. Rick Tetzloff is the Project Development Manager for the Los Esteros Critical Energy Facility. In addition to the LECEF project, Mr. Tetzloff has worked on numerous power plant development projects in California and the Pacific Northwest for Calpine.

Douglas M. Davy, Ph.D. – AFC Project Manager - Douglas Davy has 22 years of experience in the environmental consulting industry providing regulatory compliance and project management support for infrastructure development projects. This experience includes National Environmental Policy Act and California Environmental Quality Act compliance for commercial, government, and military clients. He has served as Project Manager for the preparation of Applications for Certification (AFCs) before the California Energy Commission (CEC) for several thermal power plant project cases, including preparation of three 12-month AFCs, two 6-month AFCs, one relicense and combined-cycle conversion AFC, three emergency peaker AFCs, and several AFC amendments.

Copies of their resumes are attached.

- D. **Prior Filings:** In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:
- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined-cycle Conversion, dated December 2003, Section 8.7.
 - Supplement in Response to Data Adequacy Comments on the Application for Certification for the Los Esteros Critical Energy Facility, dated February 2004, Section 8.7.

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

The FSA for the project filed by the CEC recommends that 8 Conditions of Certification be adopted to address noise and vibration issues. These conditions, NOISE-1 through NOISE-8 address applicable federal, state, and local laws, ordinances, regulations, and standards dealing with noise and vibration issues. We have reviewed the Conditions of Certification set forth in the FSA and find them to be acceptable.

III. Summary

Conversion of the LECEF to a combined-cycle facility will generate noise at known levels and the noise generated will dissipate at a predictable rate over distance.

A. Construction Phase Impacts

Construction of the proposed project is expected to be typical of other power plants in terms of schedule, equipment used, and other types of activities. The noise level will vary during the construction period, depending upon the construction phase. Construction of power plants can generally be divided into five phases that use different types of construction equipment. The five phases are: 1) site preparation and excavation; 2) concrete pouring; 3) steel erection; 4) mechanical; and 5) clean-up. Average noise levels during the construction activities are projected to be between 57 dBA and 46 dBA. The construction noise may be audible at the nearest residences but will not exceed current exposure levels and the noisiest construction activities will be confined to the daytime hours.

Pile driving noise depends on the method used and, in the case of conventional impact driving, the force of each blow. For average impacts of 20,000 ft-lb or more, the likely noise level at Cilker residence will be approximately 77 dBA. Though this level of noise is relatively high, it is not out of the range of noises frequently experienced in the project area, and the exposure will be sporadic and temporary.

Noise generated during the testing and commissioning phase of the project is not expected to be substantially different from that produced during normal full load operation. Starts and abrupt stops are more frequent during this period, but on the whole they are usually short-lived.

B. Operational Phase Impacts

Operational noise will result from the use of the power plant equipment, including the combustion and steam turbines, cooling tower, and HRSGs. A noise modeling program, Cadna/A, ver. 3.0, developed by the German firm DataKustik specifically for power plant applications, was used to evaluate the noise emissions of the facility. The noise study focused on meeting two key noise standards, as discussed above and as were met during the operational noise study for Phase 1. These two key standards are: 1) LECEF Phase 2 should not increase the average nighttime background noise level (L_{90}) at the Cilker residence by more than 5 dBA, and 2) noise due to plant operations will comply with the noise standards of the City of San Jose Public Park policies. The modeling results show that LECEF Phase 2 will meet these standards.

Public Health

I. Introduction

- A. **Name:** Gary Rubenstein
- B. **Purpose:** This testimony addresses Public Health issues associated with Phase 2 of the LECEF project.
- C. **Qualifications:** *Gary Rubenstein, B.S., QEP, - Sierra Research.* Mr. Gary Rubenstein is one of the founding partners of Sierra Research. A graduate of Caltech, he is an engineer with an extensive background in the air pollution control field, including all aspects of air quality planning, strategy development and analysis, emission inventory development, emission control system design and evaluation, and automotive emission control design. He is certified as a Qualified Environmental Professional by the Institute for Professional Environmental Practice. Mr. Rubenstein has represented numerous clients in licensing cases before the California Energy Commission. Mr. Rubenstein will sponsor Applicant's testimony in the areas of Air Quality and Public Health.
- D. **Prior Filings:** In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:
- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined-cycle Conversion, dated December 2003, Section 8.9.
 - Applicant's Response to CEC Staff Data Requests, dated April 30, 2004, Responses to Data Request 36.

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

The FSA for the project filed by the CEC recommends that 1 Condition of Certification be adopted to address public health issues. This condition, PH-1, address applicable federal, state, and local laws, ordinances, regulations, dealing with cooling water management. We have reviewed the Condition of Certification set forth in the FSA and find it to be acceptable.

III. Summary

Results from the air toxics risk assessment performed for the project indicate that there will be no significant incremental public health risks from Phase 2 operation. Results from criteria pollutant modeling for routine operations indicate that potential ambient concentrations of NO₂, CO, SO₂, and PM₁₀ will not significantly impact air quality. Potential

concentrations are below the federal and California standards established to protect public health, including the more sensitive members of the population.

The health risk assessment for the proposed project indicates that the maximum cancer risk will be approximately 0.093 in one million (verses a significance threshold of 10.0 in one million) at the point of maximum exposure to air toxics from power plant emissions after installation of Phase 2 combined-cycle equipment. This risk level is considered to be insignificant. Non-cancer chronic and acute effects will also be less than significant. There are no known sources of air toxics located near the LECEF site that, cumulatively with the LECEF, would cause a significant impact on public health.

Socioeconomic Resources

I. Introduction

- A. **Name:** Rick Tetzloff, B.S. M.E., P.E., and Douglas Davy, Ph.D.
- B. **Purpose:** This testimony addresses Socioeconomic Resources issues associated with Phase 2 of the LECEF project.
- C. **Qualifications:** *Rick Tetzloff, B.S.M.E., P.E., - Calpine Corporation.* Mr. Rick Tetzloff is the Project Development Manager for the Los Esteros Critical Energy Facility. In addition to the LECEF project, Mr. Tetzloff has worked on numerous power plant development projects in California and the Pacific Northwest for Calpine.

Douglas M. Davy, Ph.D. – AFC Project Manager - Douglas Davy has 22 years of experience in the environmental consulting industry providing regulatory compliance and project management support for infrastructure development projects. This experience includes National Environmental Policy Act and California Environmental Quality Act compliance for commercial, government, and military clients. He has served as Project Manager for the preparation of Applications for Certification (AFCs) before the California Energy Commission (CEC) for several thermal power plant project cases, including preparation of three 12-month AFCs, two 6-month AFCs, one relicense and combined-cycle conversion AFC, three emergency peaker AFCs, and several AFC amendments.

Copies of their resumes are attached.

- D. **Prior Filings:** In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:
- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined-cycle Conversion, dated December 2003, Section 8.10.
 - Supplement in Response to Data Adequacy Comments on the Application for Certification for the Los Esteros Critical Energy Facility, dated February 2004, Section 8.10.

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

The FSA for the project filed by the CEC recommends that no Conditions of Certification be adopted to address socioeconomic resource issues.

III. Summary

Local environmental impacts associated with Phase 2 were determined by comparing project demands during construction and operation with the socioeconomic resources of the project area (i.e., the San Jose MSA). A proposed power generating facility could impact employment, population, housing, public services and utilities, and/or schools. Impacts could be felt locally and/or regionally, though most impacts would tend to be more regional than local. Regional consequences were determined by comparing project demands with the socioeconomic resources of Santa Clara County. The project will not have any significant adverse impacts on the socioeconomic environment, but rather will benefit the local economy.

Soil and Water Resources

I. Introduction

- A. **Name:** Rick Tetzloff, B.S. M.E., P.E., and Douglas Davy, Ph.D.
- B. **Purpose:** This testimony addresses Soil and Water Resources issues associated with Phase 2 of the LECEF project.
- C. **Qualifications:** *Rick Tetzloff, B.S.M.E., P.E., - Calpine Corporation.* Mr. Rick Tetzloff is the Project Development Manager for the Los Esteros Critical Energy Facility. In addition to the LECEF project, Mr. Tetzloff has worked on numerous power plant development projects in California and the Pacific Northwest for Calpine.

Douglas M. Davy, Ph.D. – AFC Project Manager - Douglas Davy has 22 years of experience in the environmental consulting industry providing regulatory compliance and project management support for infrastructure development projects. This experience includes National Environmental Policy Act and California Environmental Quality Act compliance for commercial, government, and military clients. He has served as Project Manager for the preparation of Applications for Certification (AFCs) before the California Energy Commission (CEC) for several thermal power plant project cases, including preparation of three 12-month AFCs, two 6-month AFCs, one relicense and combined-cycle conversion AFC, three emergency peaker AFCs, and several AFC amendments.

Copies of their resumes are attached.

- D. **Prior Filings:** In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:
- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined-cycle Conversion, dated December 2003, Sections 8.11 and 8.15.
 - Supplement in Response to Data Adequacy Comments on the Application for Certification for the Los Esteros Critical Energy Facility, dated February 2004, Sections 8.11 and 8.15.
 - Applicant's Response to CEC Staff Data Requests, dated April 30, 2004, Responses to Data Requests 37 through 42.
 - Information needed for Water Analysis, dated October 1, 2004.

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

The FSA for the project filed by the CEC recommends that 8 Conditions of Certification be adopted to address soil, and water resource issues. These conditions, SOIL&WATER-1 through 3 and SOIL&WATER-6 through 10 address applicable federal, state, and local laws, ordinances, regulations, and standards dealing with soil and water resource issues. We have reviewed the Conditions of Certification set forth in the FSA and find them to be acceptable.

III. Summary

The project site is generally flat, with no existing slopes on or directly adjacent to the site. For this reason, the potential for erosion and siltation occurring during site grading would be low. However, during periods of heavy rainfall, run-off can occur. Standard practices during grading, including implementation of a Storm Water Pollution Prevention Plan and the conditions stipulated in the City of San Jose grading permits, will reduce the potential for erosion or siltation impacts on the site.

The City of San Jose recommends Best Management Practices (BMP) for erosion control during and after construction. Construction BMPs include straw bales, flow dissipaters, silt fences and hydroseeding, which are temporary measures typically removed after the completion of construction. Post-construction erosion control BMPs include structural controls such as inlet filters, oil/sediment separators and the use of porous paving materials. Post-Construction BMPs can also include design features such as grass swales, filter strips and detention/retention ponds. Applying appropriate erosion control measures will help maintain soil resources and water quality, protect property from erosion damage, and prevent accelerated soil loss (which destroys soil productivity and its capacity to support and maintain vegetation). Temporary erosion control measures will be installed before construction begins and will be removed from the construction site after construction activities are completed.

Plant process water will continue to be supplied by the WPCP and SBWR via the existing 1,500-foot pipeline. When originally designed and constructed, this pipe was sized to meet the Phase 2 combined-cycle facility water demand. Phase 2 will require additional water for make-up to the new steam cycle cooling tower. The existing cooling tower will remain in operation to provide cooling for the plant auxiliary systems. The project will also require additional water for makeup for blowdown and leakage from the steam cycle.

Phase 2 combined-cycle operation requires a maximum daily make-up water rate for the project of approximately 1,613 gallons per minute (gpm) or 2.3 million gallons per day. The estimated annual average water makeup rate is 952 gpm or 1.36 million gallons per day (mgd) Phase 2 will increase the demineralized water consumption to make-up for steam cycle blowdown and leakage. The size of the demineralizer unit and tank will not change due to this increased usage.

Use of recycled water ensures the least impact to the local environment. Use of recycled (or reclaimed) water is consistent with state water policy for water conservation and maximum reuse of waste water. The Phase 2 LECEF will be able to obtain its maximum daily usage using recycled water from the WPCP/SBWR. Potable water needs are not expected to change with the Phase 2 conversion to combined-cycle.

Traffic and Transportation

I. Introduction

- A. **Name:** Rick Tetzloff, B.S. M.E., P.E., and Douglas Davy, Ph.D.
- B. **Purpose:** This testimony addresses Traffic and Transportation issues associated with Phase 2 of the LECEF project.
- C. **Qualifications:** *Rick Tetzloff, B.S.M.E., P.E., - Calpine Corporation.* Mr. Rick Tetzloff is the Project Development Manager for the Los Esteros Critical Energy Facility. In addition to the LECEF project, Mr. Tetzloff has worked on numerous power plant development projects in California and the Pacific Northwest for Calpine.

Douglas M. Davy, Ph.D. – AFC Project Manager - Douglas Davy has 22 years of experience in the environmental consulting industry providing regulatory compliance and project management support for infrastructure development projects. This experience includes National Environmental Policy Act and California Environmental Quality Act compliance for commercial, government, and military clients. He has served as Project Manager for the preparation of Applications for Certification (AFCs) before the California Energy Commission (CEC) for several thermal power plant project cases, including preparation of three 12-month AFCs, two 6-month AFCs, one relicense and combined-cycle conversion AFC, three emergency peaker AFCs, and several AFC amendments.

Copies of their resumes are attached.

- D. **Prior Filings:** In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:
- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined-cycle Conversion, dated December 2003, Section 8.12.
 - Applicant's Response to CEC Staff Data Requests, dated April 30, 2004, Responses to Data Requests 43 through 45.

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

The FSA for the project filed by the CEC recommends that 5 Conditions of Certification be adopted to address traffic and transportation issues. These conditions, TRANS-1 through TRANS-5 address applicable federal, state, and local laws, ordinances, regulations, and standards dealing with traffic and transportation issues. We have reviewed the Conditions of Certification set forth in the FSA and find them to be acceptable.

III. Summary

Significant effects on the local transportation system are not expected from the LECEF Phase 2 construction activities for the following reasons:

- There will be no change to the LOS of any project area roads for average or peak hour conditions.
- The only noticeable effects on traffic will be localized near the construction site.
- The LECEF construction shift will generally begin at 7 am and finish at or before 4 pm. This will limit the number of vehicles during peak hour traffic periods and thus reducing potential traffic effects. During periods when the construction workday is extended, the workday generally will finish before 7 pm, Monday through Friday. Extended construction on weekends will take place between 8 am and 8 pm.
- The projected number of truck deliveries over the construction period is not expected to significantly impact truck/passenger car traffic ratios of the surrounding network as it currently exists. Any noticeable impact in traffic composition will likely be limited to a relatively small number of days when concrete deliveries will be made. Other deliveries will be spread over the construction period and will not significantly affect local traffic.

Generally, only small quantities of hazardous materials will be used during the construction period. They may include gasoline, diesel fuel, motor oil, hydraulic fluid, solvents, cleaners, sealants, welding flux, various lubricants, paint, and paint thinner. There are no plans to have any batch plants (asphalt or concrete) onsite. No acutely hazardous materials associated with construction activities will be used or stored onsite during construction. Because of the small quantities of hazardous materials involved, separate truck deliveries of hazardous materials during construction are unlikely.

The proposed project, when operating under Phase 2, will generate a maximum of 34 trips per day to the facility. Generally speaking, the number of trips per day will be 22, since only 4 of the 10 operators will be working on a given day. The project is expected to employ 17 full-time employees (including the 9 existing full-time employees currently working at the LECEF). Access to the project site for the operation phase will be from Zanker Road. The facility will potentially be operating 7 days per week, 24 hours per day.

It is assumed that most of the permanent workforce will reside in San Jose and nearby communities, and that their preferred routes to work will follow SR 237 or Zanker Road. These avenues of travel will accommodate the operations-related traffic without a change in LOS. Round trips generated by power plant operations personnel will be spread over two shifts and represent a negligible increase in peak hour or daily traffic volumes. The 34 trips generated by power plant operations will not result in any change in the LOS classification of the affected roadways.

Transmission Line Safety and Nuisance

I. Introduction

- A. **Name:** Rick Tetzloff, B.S. M.E., P.E., and Douglas Davy, Ph.D.
- B. **Purpose:** This testimony addresses Transmission Line Safety and Nuisance issues associated with Phase 2 of the LECEF project.
- C. **Qualifications:** *Rick Tetzloff, B.S.M.E., P.E., - Calpine Corporation.* Mr. Rick Tetzloff is the Project Development Manager for the Los Esteros Critical Energy Facility. In addition to the LECEF project, Mr. Tetzloff has worked on numerous power plant development projects in California and the Pacific Northwest for Calpine.

Douglas M. Davy, Ph.D. – AFC Project Manager - Douglas Davy has 22 years of experience in the environmental consulting industry providing regulatory compliance and project management support for infrastructure development projects. This experience includes National Environmental Policy Act and California Environmental Quality Act compliance for commercial, government, and military clients. He has served as Project Manager for the preparation of Applications for Certification (AFCs) before the California Energy Commission (CEC) for several thermal power plant project cases, including preparation of three 12-month AFCs, two 6-month AFCs, one relicense and combined-cycle conversion AFC, three emergency peaker AFCs, and several AFC amendments.

Copies of their resumes are attached.

- C. **Prior Filings:** In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:
- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined-cycle Conversion, dated December 2003, Section 5.

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

The FSA for the project filed by the CEC recommends that 3 Conditions of Certification be adopted to address transmission line safety and nuisance issues. These conditions, TLSN-1 and TLSN-3 address applicable federal, state, and local laws, ordinances, regulations, and standards dealing with transmission line safety and nuisance issues. We have reviewed the Conditions of Certification set forth in the FSA and find them to be acceptable.

III. Summary

For Phase 2, the new electric field and audible noise from the new 200-ft interconnection with the SVP Switching Station will not be significant. There is no change to the existing lines' magnetic fields from the continued operation of Phase 1. While there will be a reduction in the magnetic fields of the 230 kV lines, there may be a slight local increase, though, of the 115 kV lines' magnetic field levels due to slightly higher currents resulting from Phase 2. No changes to the existing lines are recommended as they already incorporate cross-phasing for reduced EMFs.

Transmission System Engineering

I. Introduction

- A. **Name:** Rick Tetzloff, B.S. M.E., P.E., and Douglas Davy, Ph.D.
- B. **Purpose:** This testimony addresses Transmission System Engineering issues associated with Phase 2 of the LECEF project.
- C. **Qualifications:** *Rick Tetzloff, B.S.M.E., P.E., - Calpine Corporation.* Mr. Rick Tetzloff is the Project Development Manager for the Los Esteros Critical Energy Facility. In addition to the LECEF project, Mr. Tetzloff has worked on numerous power plant development projects in California and the Pacific Northwest for Calpine.

Douglas M. Davy, Ph.D. – AFC Project Manager - Douglas Davy has 22 years of experience in the environmental consulting industry providing regulatory compliance and project management support for infrastructure development projects. This experience includes National Environmental Policy Act and California Environmental Quality Act compliance for commercial, government, and military clients. He has served as Project Manager for the preparation of Applications for Certification (AFCs) before the California Energy Commission (CEC) for several thermal power plant project cases, including preparation of three 12-month AFCs, two 6-month AFCs, one relicense and combined-cycle conversion AFC, three emergency peaker AFCs, and several AFC amendments.

Copies of their resumes are attached.

- D. **Prior Filings:** In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:
- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined-cycle Conversion, dated December 2003, Section 5.
 - Supplement in Response to Data Adequacy Comments on the Application for Certification for the Los Esteros Critical Energy Facility, dated February 2004, Section 6.0.
 - Applicant's Response to CEC Staff Data Requests, dated April 30, 2004, Responses to Data Request 46.
 - Los Esteros Critical Energy Facility LECEF Phase 2 Transmission Interconnection with Silicon Valley Power

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

The FSA for the project filed by the CEC recommends that 10 Conditions of Certification be adopted to address transmission system engineering issues. These conditions, TSE-1 through TSE-8, and TSE-A1 and TSE-A2 address applicable federal, state, and local laws, ordinances, regulations, and standards dealing with transmission system engineering issues. We have reviewed the Conditions of Certification set forth in the FSA and find them to be acceptable.

III. Summary

The results of the Updated Final System Impact Study for Phase 2 indicate that the operation of the project will not cause overloads on transmission facilities and will slightly reduce some pre-project overloads, thus improving system reliability. The Phase 2 project provides additional generation in a generation deficient area and will enhance local reliability and reduce transmission system losses.

Visual Resources

I. Introduction

- A. **Name:** Rick Tetzloff, B.S. M.E., P.E., and Douglas Davy, Ph.D.
- B. **Purpose:** This testimony addresses Visual Resources issues associated with Phase 2 of the LECEF project.
- C. **Qualifications:** *Rick Tetzloff, B.S.M.E., P.E., - Calpine Corporation.* Mr. Rick Tetzloff is the Project Development Manager for the Los Esteros Critical Energy Facility. In addition to the LECEF project, Mr. Tetzloff has worked on numerous power plant development projects in California and the Pacific Northwest for Calpine.

Douglas M. Davy, Ph.D. – AFC Project Manager - Douglas Davy has 22 years of experience in the environmental consulting industry providing regulatory compliance and project management support for infrastructure development projects. This experience includes National Environmental Policy Act and California Environmental Quality Act compliance for commercial, government, and military clients. He has served as Project Manager for the preparation of Applications for Certification (AFCs) before the California Energy Commission (CEC) for several thermal power plant project cases, including preparation of three 12-month AFCs, two 6-month AFCs, one relicense and combined-cycle conversion AFC, three emergency peaker AFCs, and several AFC amendments.

Copies of their resumes are attached.

- D. **Prior Filings:** In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:
- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined-cycle Conversion, dated December 2003, Section 8.13.
 - Applicant's Response to CEC Staff Data Requests, dated April 30, 2004, Responses to Data Requests 47 through 54.

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

The FSA for the project filed by the CEC recommends that 6 Conditions of Certification be adopted to address visual resource issues. These conditions, VIS-1 through VIS-6 address applicable federal, state, and local laws, ordinances, regulations, and standards dealing with visual resource issues. We have reviewed the Conditions of Certification set forth in the FSA and find them to be acceptable.

III. Summary

With the existing landscaping, the facility (as it currently exists and as it will be modified by Phase 2) does not have and will not have significant adverse impacts on visual resources. The CEQA Guidelines define a “significant effect” on the environment to mean a “substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including objects of historic or aesthetic significance (14 CCR, § 15382). The four questions related to aesthetics that are posed for lead agencies and the answers to them for the Phase 2 combined-cycle modifications are:

1. *Would the project have a substantial adverse effect on a scenic vista?*

In proximity to the project, the only officially designated scenic corridors or vista areas that have potential relevance for the current or future project consist of the trail corridors on eastern Coyote Creek, around the perimeter of the proposed U.S. DataPort site and along SR 237. Although City and County Plans and the Regional Bay Trail Plan designate several corridors through this area for eventual development of trail corridors, only one of the planned trails has been developed. This recently developed trail extends east from Zanker Road to McCarthy Road along the south side of SR 237. This multi-purpose trail is immediately adjacent to the highway with chain link fence on both sides. Views to the LECEF and combined-cycle modifications are and will be screened by the berms, soundwall and trees located north of SR 237. Also, the planned trail on the northside of SR 237 in proximity to the LECEF would be screened by the same landscaped berm and wall. Finally, although the LECEF is visible from a segment of a planned bicycle trail corridor along Zanker Road, however, it has no scenic designation.

The Scenic Routes and Trails Diagram of the San Jose 2020 General Plan designates SR 237 as a “Landscaped Throughway”. However, the plan’s policy specifying that “Any development occurring *adjacent* (emphasis added) to Landscaped Throughways should incorporate interesting and attractive design qualities and promote a high standard of architectural excellence” does not apply to the project because the project site is not immediately adjacent to the freeway. The site is separated from the freeway by a 600-foot wide segment of property, which has been approved for development as a part of the U.S. DataPort project. Also, two landscaped berms with large trees have been installed along SR 237 and the southern boundary of the LECEF to screen views of the facility.

2. *Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

This question does not apply to the LECEF because none of the project facilities or proposed combined-cycle modifications fall within the boundaries of a state scenic highway.

3. *Would the project substantially degrade the existing visual character or quality of the site and its surroundings?*

By converting the facility to combined-cycle (Phase 2), the most significant change to the view from KOP-1 would be the new six-cell cooling tower. However, the soundwall and the trees on the landscaped berms along SR 237 and along the

southern boundary of the project site in time will substantially screen this cooling tower. From KOP-2, the view currently includes a substation, two transmission lines and the existing LECEF. Also, by the time Phase 2 is constructed, additional transmission lines and the SVP Switching Station will be within the view. The proposed six-cell cooling tower would be the most significant Phase 2 addition to this view and it would be partially screened by the soundwall and tall growing trees. In a larger visual context, the LECEF and proposed combined-cycle modification fit well with the WPCP, the substation, transmission lines, highway infrastructure, and large-scale office park development that exists nearby. Although specific views are altered, the extent of changes resulting from Phase 1 or Phase 2 will not substantially degrade the visual quality of the site and surrounding area as viewed from locations within the viewshed.

4. *Would the project create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?*

Facility light fixtures have been and will be restricted to areas required for safety, security, and operations; lighting is and will be directed onsite; lighting is and will be shielded from public view; and non-glare fixtures and use of switches, sensors, and timers to minimize the time that lights not needed for safety and security have been and will be specified. These measures substantially reduce the offsite visibility of project lighting. Offsite visibility of lighting is further reduced by the soundwall and the landscaping along the facility's southern, western, and eastern boundaries. With these measures, lighting associated with the current and future project does not pose a hazard or adversely affect day or nighttime views toward the site. As a consequence, the impacts of the project's visual effects related to lighting would not be significant.

Waste Management

I. Introduction

- A. **Name:** Rick Tetzloff, B.S. M.E., P.E., and Douglas Davy, Ph.D.
- B. **Purpose:** This testimony addresses Waste Management issues associated with Phase 2 of the LECEF project.
- C. **Qualifications:** *Rick Tetzloff, B.S.M.E., P.E., - Calpine Corporation.* Mr. Rick Tetzloff is the Project Development Manager for the Los Esteros Critical Energy Facility. In addition to the LECEF project, Mr. Tetzloff has worked on numerous power plant development projects in California and the Pacific Northwest for Calpine.

Douglas M. Davy, Ph.D. – AFC Project Manager - Douglas Davy has 22 years of experience in the environmental consulting industry providing regulatory compliance and project management support for infrastructure development projects. This experience includes National Environmental Policy Act and California Environmental Quality Act compliance for commercial, government, and military clients. He has served as Project Manager for the preparation of Applications for Certification (AFCs) before the California Energy Commission (CEC) for several thermal power plant project cases, including preparation of three 12-month AFCs, two 6-month AFCs, one relicense and combined-cycle conversion AFC, three emergency peaker AFCs, and several AFC amendments.

Copies of their resumes are attached.

- D. **Prior Filings:** In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:
- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined-cycle Conversion, dated December 2003, Section 8.14.
 - Applicant's Response to CEC Staff Data Requests, dated April 30, 2004, Responses to Data Requests 55 through 57.
 - Response to e-mail from Janet Naito, DTSC to Ramesh Sundareswaran, California Energy Commission, dated April 6, 2004 regarding DTSC Comments on the Los Esteros 2 Project.

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

The FSA for the project filed by the CEC recommends that 5 Conditions of Certification be adopted to address waste management issues. These conditions, WASTE-1, WASTE-2, WASTE-5, WASTE-6, and WASTE-7 address applicable federal, state, and local laws, ordinances, regulations, and standards dealing with waste management issues. We have reviewed the Conditions of Certification set forth in the FSA and find them to be acceptable.

III. Summary

Waste will be generated at the site during Phase 2 construction and operation. Types of waste will include waste water, solid nonhazardous waste, and liquid and solid hazardous waste.

A. Construction Phase

During Phase 2 construction, the primary waste generated will be nonhazardous solid waste. However, some nonhazardous liquid waste, and both solid and liquid hazardous waste will also be generated.

1. Paper, Wood, Glass, and Plastics

Paper, wood, glass, and plastics will be generated from packing materials, waste lumber, insulation, and empty nonhazardous chemical containers. Approximately 10 tons of these wastes will be generated during construction. These wastes will be recycled where practical. Waste that cannot be recycled will be periodically disposed of in a Class III landfill. Onsite, the waste will be placed in dumpsters.

2. Concrete

Approximately 10 tons of excess concrete will be generated during construction. Waste concrete will be periodically disposed of in a Class III landfill or at clean fill sites, if available.

3. Metal

Metal will include steel from welding/cutting operations, packing materials, and empty nonhazardous chemical containers. Aluminum waste will be generated from packing materials and electrical wiring. Approximately 10 tons of metal will be generated during construction. Waste will be recycled where practical, and nonrecyclable waste will be deposited in a Class III landfill.

4. Nonhazardous Waste Water

Waste water generated during construction will include sanitary waste, water from testing, flushing and draining equipment and piping, equipment wash water, storm water runoff, and water from excavation dewatering during construction. Sanitary waste will be collected in portable, self-contained toilets. Equipment washwater will be contained at specifically designated wash areas and disposed of off-site. Storm water runoff will be managed in accordance with a storm water management plan that will be approved by the appropriate agencies prior to the start of construction. Water resulting from flushing and construction dewatering will be filtered and delivered to the WPCP.

5. Hazardous Waste

Most of the hazardous waste generated during construction will consist of liquid waste, such as cleaning fluids, passivating fluid (to prepare pipes for use), and solvents. Some hazardous solid waste, such as welding materials and dried paint, may also be generated.

Cleaning waste liquid will be generated as pipes are cleaned. The volume of flushing and cleaning liquid waste generated is estimated to be one to two times the internal volume of the pipes cleaned. The quantity of welding, solvent, and paint waste is expected to be minimal.

The construction contractor, considered to be the generator of hazardous waste during the construction phase, will be responsible for the proper handling of hazardous waste in compliance with all applicable federal, state, and local laws and regulations, including licensing, personnel training, accumulation limits and times, and reporting and record keeping. The hazardous waste will be collected in hazardous waste accumulation containers near the points of generation and removed daily to the contractor's 90-day hazardous waste storage area, located at the site construction laydown area. Prior to expiration of the regulatory 90-day storage period, the waste will be manifested and transported to an authorized hazardous waste management facility by a permitted hazardous waste transporter.

The underlying site soil contains residual pesticide contaminants from past agricultural uses. Prior to the start of construction a Soil Management Plan will be prepared to address the management of any soil excavated during Phase 2 construction.

B. Operations Phase

The primary waste generated during the operation phase will be nonhazardous waste water from plant operation. Nonhazardous solid waste will also be generated, as well as varying quantities of liquid and solid hazardous waste. The waste water from plant operation will be collected and returned to the WPCP. Although a large percent of the water used to operate the facility will be lost through evaporation from the cooling towers, the remaining effluent water from the cooling towers is returned to the WPCP.

The sanitary sewer system will collect waste water from facility sinks and toilets. The waste produced will be typical of the type and quantity generated by facility workers. The waste will be discharged to the WPCP.

Nonhazardous solid waste or refuse will be collected by one of 11 collection companies approved or franchised by the City of San Jose. Although most of these collection companies remove recyclable material prior to depositing non-recyclable waste in a landfill, recycling will be implemented throughout the facility to minimize the quantity of nonhazardous waste that must be disposed of in a landfill.

Hazardous wastes generated during Phase 2 operation will be managed in accordance with all applicable LORS for hazardous waste generators. Hazardous wastes will not be stored on site for longer than 90 days.

Worker Safety and Fire Protection

I. Introduction

- A. **Name:** Rick Tetzloff, B.S. M.E., P.E., and Douglas Davy, Ph.D.
- B. **Purpose:** This testimony addresses Worker Safety and Fire Protection issues associated with Phase 2 of the LECEF project.
- C. **Qualifications:** *Rick Tetzloff, B.S.M.E., P.E., - Calpine Corporation.* Mr. Rick Tetzloff is the Project Development Manager for the Los Esteros Critical Energy Facility. In addition to the LECEF project, Mr. Tetzloff has worked on numerous power plant development projects in California and the Pacific Northwest for Calpine.

Douglas M. Davy, Ph.D. – AFC Project Manager - Douglas Davy has 22 years of experience in the environmental consulting industry providing regulatory compliance and project management support for infrastructure development projects. This experience includes National Environmental Policy Act and California Environmental Quality Act compliance for commercial, government, and military clients. He has served as Project Manager for the preparation of Applications for Certification (AFCs) before the California Energy Commission (CEC) for several thermal power plant project cases, including preparation of three 12-month AFCs, two 6-month AFCs, one relicense and combined-cycle conversion AFC, three emergency peaker AFCs, and several AFC amendments.

Copies of their resumes are attached.

- A. **Prior Filings:** In addition to the statements herein, this testimony includes by reference the following documents submitted in this proceeding:
- Application for Certification, Los Esteros Critical Energy Facility, Phase 1 Relicense and Phase 2 Combined-cycle Conversion, dated December 2003, Section 8.16.
 - Supplement in Response to Data Adequacy Comments on the Application for Certification for the Los Esteros Critical Energy Facility, dated February 2004, Section 8.16.

To the best of our knowledge, all of the facts contained in this testimony (including all referenced documents) are true and correct. To the extent this testimony contains opinions, such opinions are our own. We make these statements, and render these opinions freely and under oath for the purpose of constituting sworn testimony in this proceeding.

II. Proposed Licensing Conditions

The FSA for the project filed by the CEC recommends that 5 Conditions of Certification be adopted to address worker safety and fire protection issues. These conditions, WORKER SAFETY-1 THROUGH WORKER SAFETY-5 address applicable federal, state, and local laws, ordinances, regulations, and standards dealing with worker safety and fire protection

issues. We have reviewed the Conditions of Certification set forth in the FSA and find them to be acceptable.

III. Summary

Prior to the start of Phase 2 construction, a Construction Safety Program will be developed that will include information on the hazards associated with this project, and the control measures that must be implemented to protect construction personnel and visitors from the identified hazards. It will also outline procedures to which project staff will adhere as they operate the facility in compliance with the LORS. The primary components of the Construction Safety Program will include the following: Injury and Illness Prevention Program, Fire Protection and Prevention Program, Personal Protective Equipment Program, Emergency Action Program, and general Construction Safety Plan. Periodic audits will be performed by qualified individuals to determine whether proper work practices are being used to mitigate hazardous conditions and to evaluate regulatory compliance.

During general operation of LECEF, workers may be exposed to various health and safety hazards. Operational hazards will be managed through the implementation of a comprehensive Operational Health and Safety Program. The major elements of this program include:

- Injury and Illness Prevention
- Emergency Action
- Fire Protection
- Personal Protective Equipment
- Confined Space Entry
- Fall Protection
- Electrical Safety
- Materials Handling, Storage, Use and Disposal
- Tools - Hand and Power
- Welding and Cutting
- Scaffolds
- Ladders
- Hazard Communication
- Unfired Pressure Vessel
- General Operations and Maintenance (i.e., how to safely operate and maintain the plant)

All of the applicable training requirements have been implemented. With the implementation of the above mitigation measures, in combination with the proposed Conditions of Certification contained in the FSA, the project will comply with the applicable federal, state, and local laws, ordinances, regulations, and standards, and potential impacts, if any, are mitigated to a level of less than significant.

Resumes and Declarations

Rick C. Tetzloff, P.E.

Calpine Corporation

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Portland, Oregon 97232
e-mail: rtetzloff@calpine.com

503-552-3781 phone
503-807-1878 cell
503-223-7400 fax

EDUCATION: University of Nebraska-Lincoln
Bachelor of Science, Mechanical Engineering
GPA 3.8/4.0 cum laude, May 1992
University of Kansas
Steam Power Plant Design Course, Fall 1992
Johnson County Community College
Spanish Language Courses, 1993-1996

REGISTRATION: Professional Engineering License, No. 14436, State of Kansas, January 1997.

EXPERIENCE: **CALPINE CORPORATION, Portland, Oregon**

August 2001-
Present

Manager, Regional Engineering

- Lead Engineer for project development in Pacific Northwest.
- Screened potential power plant sites in Oregon, Washington, and Idaho for access to electrical transmission, natural gas, and water.
- Performed due diligence for engineering and environmental issues for potential power plant acquisitions in Washington, Oregon, Idaho, and British Columbia.
- Responsible for general design of plant including cycle design, site layout, plant arrangement, and design basis document.
- Lead engineer for new projects proposed in bids in Idaho, Oregon, and British Columbia.

August 2001 -
Present

Project Development – Turner Energy Center

- Assistant Lead Engineer, then Lead Engineer, and then Project Development Manager for 620 MW combined cycle power plant in Turner, Oregon.
- Coordinated the preliminary engineering efforts of A/E firms.
- Managed multiple environmental and engineering consultants for permitting process for site certificate, air permit, and wetlands permit.
- Performed emissions calculations for air permitting.
- Negotiated land option agreements with multiple property owners.

August 1999-
August 2001

PORTLAND GENERAL ELECTRIC, Portland, Oregon

Mechanical Engineer III (Combustion Turbines) – Power Supply Engineering Services

- Hired as combustion turbine specialist to support capital and O&M projects at PGE's combined cycle plants, the Beaver and Coyote Springs Generating Stations.
- Performed due diligence reviews of two existing combined cycle plants for possible purchase and relocation by Enron North America.
- Conducted bid evaluation of combustion turbine upgrade project for 6 existing GE 7B units at Beaver Generating Station. Upgrades included replacement of inlet guide vanes, compressor coating, stub shaft modification, complete rewiring, and control system replacement.
- Evaluated condition of six GE HRSGs at Beaver Generating Station.
- Project Champion for "Analysis of HRSG Life Extension Methods for Cycling Units" for Combustion Turbine Combined Cycle (CTC²) Users Group.

2001

Project Development – Pioneer Generating Plant

- Project Manager/Lead Engineer for 45 MW combustion turbine power plant using a GE LM6000PC unit at a greenfield site at the Port of Morrow in eastern Oregon. Project was approved in May 2001 with a Commercial Operation Date of December 1, 2001 – cancelled due to low power prices in July 2001.
- Project required obtaining CTG, gas compressor, step-up transformer, switchgear, utility agreements and permits on very fast-track schedule.
- Coordinated efforts for site selection, land lease, transmission, water, and gas.

Rick C. Tetzloff, P.E.

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503-807-1878 cell
503-223-7400 fax

- 2001** **Project Development – Port Westward Generating Plant**
- Lead Engineer for 650 MW combined cycle power plant in western Oregon.
 - Responsible for portions of Notice of Intent and Application for Site Certificate for Oregon Office of Energy (Energy Facility Siting Council).
 - Responsible for general design of plant including cycle design, site layout, plant arrangement, and design basis document.
 - Performed air emissions estimates to support air permitting.
- 2000-2001** **Air Compressor Replacement Project – Boardman Coal Plant**
- Managed \$500,000 project to replace 5 reciprocating air compressors with 4 screw-type compressors. Completed on-time and under-budget without a plant outage.
- 2000-2001** **Duct Burner Retrofit Project – Coyote Springs Unit 1**
- Managed \$400,000 project to install duct burner in an existing HRSG duct.
- 1999-2001** **Coyote Springs 2 LLC Combined Cycle Project Development and Engineering Review**
- Developed technical specifications for combustion turbine, HRSG, steam turbine, condenser, boiler feedpumps, piping, valves, performance testing, and pre-operational testing for Coyote Springs 2 LLC request for proposal for 1x1 7FA combined cycle project.
 - Conducted EPC Contractor bid evaluation for Coyote Springs 2 LLC Project.
 - Part of team that negotiated Contract with EPC bidders.
 - Reviewed design basis document and RFP draft contract for commercial terms, liquidated damages, and testing requirements.
 - Developed cycle models for EPC bids using GateCycle and GTPro/GTMaster software programs and performed cycle analyses for fuel gas heating, inlet air cooling, HRSG design, duct firing, and steam turbine design.
 - Calculated and analyzed combustion turbine and duct firing air emissions for impacts to existing site environmental air permit.
 - Supported Enron in sale of Coyote Springs 2 LLC Project to potential equity investors.
 - Coordinated engineering review of EPC Contractor's design and technical issues under engineering services contract for Avista.
- October 1997 -
July 1999** **BLACK & VEATCH, Jacksonville, Florida**
Mechanical Engineer in Systems Design - Power Division
- Field assignment providing engineering services for the Jacksonville Electric Authority under a long-term JEA/B&V alliance agreement.
 - Provided mechanical systems design engineering and air and water permitting support for 170 MW combustion turbine project at Kennedy Generating Station and 510 MW combustion turbine project at Brandy Branch.
 - Performed systems design engineering for 2x300 MW circulating fluidized bed boiler repowering project of the Northside Generating Station Units 1 & 2. Work included developing P&IDs, cost estimating, performing steam turbine refurbishment bid evaluations, writing technical specifications, and analyzing plant systems for repowered operating conditions.
 - Mechanical engineering and construction management support for Naval Air Station air compressor upgrade project.
 - Managed and coordinated inlet air cooling study for all JEA combustion turbines and biomass feasibility studies for JEA.

Rick C. Tetzloff, P.E.

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503-807-1878 cell
503-223-7400 fax

June 1992 -
October 1997

BLACK & VEATCH, Overland Park, Kansas

Mechanical Engineer Power Conversion Specialist in Combustion Turbine Unit - Power Division

- Assisted field construction and startup team for Costanera combined cycle repowering project in Argentina in areas of performing system walk-downs, developing punch lists, and revising pipe routing and pipe hanger designs.
- Conducted combustion turbine inlet air cooling study evaluating evaporative coolers, centrifugal and absorption chillers, and ice storage alternatives for Sacramento Municipal Utility District.
- Conducted combined cycle siting/feasibility study and combustion turbine bid evaluations for 150-200 MW combined cycle project in Bangladesh for the UNOCAL Corporation.
- Performed combustion turbine fuel flexibility study for natural gas, naphtha, distillate oil, natural gas condensates, and residual fuel oil.
- Provided cycle design, air emissions calculations, major plant equipment (combustion turbines steam turbines, condensers, feedwater heaters, boiler feed pumps, etc.) specifications and bid evaluations for several thermal plants, simple cycle, combined cycle, and cogeneration projects.
- Provided operator training for a large combined cycle project in Indonesia.
- Conducted thermal and combined cycle optimization studies for utilities and IPP developers.
- Conducted study of advanced natural gas-fired power plant technologies including development of overall plant performance, capital costs, and operating and maintenance cost estimates.
- Developed performance test procedure for combined cycle repowering project in Argentina. Reviewed and witnessed performance testing of large combined cycle cogeneration project in Texas. Also reviewed performance test procedures for several combined cycle projects.

DECLARATION OF

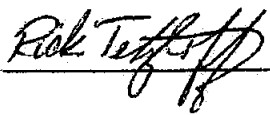
Rick Tetzloff

I, Rick Tetzloff, declare as follows:

1. I am presently employed by Calpine Corporation as a Development Manager.
2. A copy of my professional qualifications and experience is contained in Attachment A of the testimony.
3. I prepared the attached Alternatives testimony for the Los Esteros Critical Energy Facility based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 23, 2005

Signed: 

At:

DECLARATION OF

Rick Tetzloff

I, Rick Tetzloff, declare as follows:

1. I am presently employed by Calpine Corporation as a Development Manager.
2. A copy of my professional qualifications and experience is contained in Attachment A of the testimony.
3. I prepared the attached Biological Resources testimony for the Los Esteros Critical Energy Facility based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 23, 2005

Signed: *Rick Tetzloff*

At:

DECLARATION OF

Rick Tetzloff

I, Rick Tetzloff, declare as follows:

1. I am presently employed by Calpine Corporation as a Development Manager.
2. A copy of my professional qualifications and experience is contained in Attachment A of the testimony.
3. I prepared the attached Cultural Resources testimony for the Los Esteros Critical Energy Facility based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 23, 2005

Signed: 

At:

DECLARATION OF


Rick Tetzloff, P.E.

I, Rick Tetzloff, declare as follows:

1. I am presently employed by Calpine Corporation as a Development Manager.
2. A copy of my professional qualifications and experience is contained in Attachment A of the testimony.
3. I prepared the attached Facility Design, Power Plant Reliability, and Power Plant Efficiency testimony for the Los Esteros Critical Energy Facility based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 23, 2005

Signed: 

At:

DECLARATION OF

Rick Tetzloff

I, Rick Tetzloff, declare as follows:

1. I am presently employed by Calpine Corporation as a Development Manager.
2. A copy of my professional qualifications and experience is contained in Attachment A of the testimony.
3. I prepared the attached General Conditions Including Compliance Monitoring and Closure Plan testimony for the Los Esteros Critical Energy Facility based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 23, 2005

Signed: 

At:

DECLARATION OF

Rick Tetzloff

I, Rick Tetzloff, declare as follows:

1. I am presently employed by Calpine Corporation as a Development Manager.
2. A copy of my professional qualifications and experience is contained in Attachment A of the testimony.
3. I prepared the attached Geology and Paleontological Resources testimony for the Los Esteros Critical Energy Facility based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 23, 2005

Signed: 

At:

DECLARATION OF

Rick Tetzloff

I, Rick Tetzloff, declare as follows:

1. I am presently employed by Calpine Corporation as a Development Manager.
2. A copy of my professional qualifications and experience is contained in Attachment A of the testimony.
3. I prepared the attached Hazardous Materials Management testimony for the Los Esteros Critical Energy Facility based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 23, 2005

Signed: 

At:

DECLARATION OF

Rick Tetzloff

I, Rick Tetzloff, declare as follows:

1. I am presently employed by Calpine Corporation as a Development Manager.
2. A copy of my professional qualifications and experience is contained in Attachment A of the testimony.
3. I prepared the attached Land Use testimony for the Los Esteros Critical Energy Facility based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 23, 2005

Signed: 

At:

DECLARATION OF

Rick Tetzloff

I, Rick Tetzloff, declare as follows:

1. I am presently employed by Calpine Corporation as a Development Manager.
2. A copy of my professional qualifications and experience is contained in Attachment A of the testimony.
3. I prepared the attached Noise and Vibration testimony for the Los Esteros Critical Energy Facility based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 23, 2005

Signed: 

At:

DECLARATION OF

Rick Tetzloff

I, Rick Tetzloff, declare as follows:

1. I am presently employed by Calpine Corporation as a Development Manager.
2. A copy of my professional qualifications and experience is contained in Attachment A of the testimony.
3. I prepared the attached Socioeconomic Resources testimony for the Los Esteros Critical Energy Facility based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 23, 2005

Signed: 

At:

DECLARATION OF

Rick Tetzloff

I, Rick Tetzloff, declare as follows:

1. I am presently employed by Calpine Corporation as a Development Manager.
2. A copy of my professional qualifications and experience is contained in Attachment A of the testimony.
3. I prepared the attached Soil and Water Resources testimony for the Los Esteros Critical Energy Facility based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 23, 2005

Signed: 

At:

DECLARATION OF

Rick Tetzloff

I, Rick Tetzloff, declare as follows:

1. I am presently employed by Calpine Corporation as a Development Manager.
2. A copy of my professional qualifications and experience is contained in Attachment A of the testimony.
3. I prepared the attached Traffic and Transportation testimony for the Los Esteros Critical Energy Facility based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 23, 2005

Signed: 

At:

DECLARATION OF


Rick Tetzloff

I, Rick Tetzloff, declare as follows:

1. I am presently employed by Calpine Corporation as a Development Manager.
2. A copy of my professional qualifications and experience is contained in Attachment A of the testimony.
3. I prepared the attached Transmission Line Safety and Nuisance testimony for the Los Esteros Critical Energy Facility based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 23, 2005

Signed: 

At:

DECLARATION OF

Rick Tetzloff

I, Rick Tetzloff, declare as follows:

1. I am presently employed by Calpine Corporation as a Development Manager.
2. A copy of my professional qualifications and experience is contained in Attachment A of the testimony.
3. I prepared the attached Transmission System Engineering testimony for the Los Esteros Critical Energy Facility based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 23, 2005

Signed: 

At:

DECLARATION OF

Rick Tetzloff

I, Rick Tetzloff, declare as follows:

1. I am presently employed by Calpine Corporation as a Development Manager.
2. A copy of my professional qualifications and experience is contained in Attachment A of the testimony.
3. I prepared the attached Visual Resources testimony for the Los Esteros Critical Energy Facility based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 23, 2005

Signed: 

At:

DECLARATION OF

Rick Tetzloff a

I, Rick Tetzloff, declare as follows:

1. I am presently employed by Calpine Corporation as a Development Manager.
2. A copy of my professional qualifications and experience is contained in Attachment A of the testimony.
3. I prepared the attached Waste Management testimony for the Los Esteros Critical Energy Facility based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 23, 2005

Signed: 

At:

DECLARATION OF
Rick Tetzloff

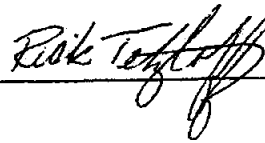
I, Rick Tetzloff, declare as follows:

1. I am presently employed by Calpine Corporation as a Development Manager.
2. A copy of my professional qualifications and experience is contained in Attachment A of the testimony.
3. I prepared the attached Worker Safety and Fire Protection testimony for the Los Esteros Critical Energy Facility based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 23, 2005

Signed: _____



At:



Douglas M. Davy, Ph.D.

AFC Project Manager

Twenty-two years of experience in the environmental consulting industry providing regulatory compliance and project management support for infrastructure development projects. This experience includes National Environmental Policy Act and California Environmental Quality Act compliance for commercial, government, and military clients.

Distinguishing Qualifications

- Project Manager for several California Energy Commission (CEC) Applications for Certification (AFCs)
- CEC licensing experience includes Project Manager for three 12-month AFCs, two 6-month AFCs, one relicense and combined-cycle conversion AFC, several amendments, and three emergency peaker AFCs.
- Prepared critical project development and permitting reviews for 10 prospective power plant development sites

Representative Experience

Los Esteros Critical Energy Facility Phase 1 Relicense and Phase 2 Combined-Cycle Conversion, Calpine Corporation—Project Manager for Application for Certification before the California Energy Commission that included relicensing a 180 MW simple-cycle power plant in San Jose, California, and a conversion to combined-cycle operation that would increase the nominal plant output to 320 MW. Certification expected 2005.

Inland Empire Energy Center, Calpine Corporation—Project Manager for Application for Certification before the California Energy Commission for 790 MW natural gas-fired power plant in Riverside County, California. Directed multidisciplinary team of scientists and engineers in preparing testimony for licensing. Managed preparation of license amendments, including conversion of the turbine technology to the GE Energy S107H System. Coordinated consultations with CEC staff and other regulatory agencies. Project to begin construction in August 2005.

Roseville Energy Park, Roseville Electric—Project Manager for Application for Certification before the California Energy Commission for 160 MW natural gas-fired power plant in Roseville, Placer County, California. Directed multidisciplinary team of scientists and engineers in providing project development support and preparing application document, responding to data requests. Participated in consultations with CEC staff and other regulatory agencies and provided expert testimony. Project certified in April 2005 and will begin construction in August 2005.

Donald Von Raesfeld Power Plant/Pico Power Project, Silicon Valley Power—Project Manager for Application for Certification before the California Energy Commission for 123 MW natural gas-fired power plant in Santa Clara, California. Directed multidisciplinary team of scientists and engineers in providing project development support and preparing application document, responding to data requests, and providing expert testimony. Participated in consultations with CEC staff and other regulatory agencies. Project

challenges included developing a mitigation plan for air emissions deposition effects on the Bay checkerspot butterfly, rezoning of the project site, negotiating Best Available Control Technology standards, and FAA air navigation hazard clearance. This project qualified for an expedited 6-month licensing process under the Governor's emergency power plant licensing Executive Order. The project was commissioned in June 2005 and is in operation.

Russell City Energy Center, Calpine/Bechtel Joint Development – Project Manager for the preparation of an Application for Certification before the California Energy Commission for a 600-MW natural gas-fired power plant in Hayward, California and appurtenant facilities including natural gas, water supply, and electrical transmission lines. Coordinated multidisciplinary team assisting with project siting and design and provided expert testimony. Project qualified for an expedited 6-month licensing process under the Governor's emergency power plant licensing Executive Order.

Newark Energy Center, Calpine/Bechtel Joint Development – Project Manager for the preparation of an Application for Certification before the California Energy Commission for a 600-MW natural gas-fired power plant in Alameda County, California and appurtenant facilities including natural gas, water supply, and electrical transmission lines. Coordinated multidisciplinary team assisting with project siting and design.

Sutter Energy Center, Calpine Corporation – Project Manager for an Application for Certification before the California Energy Commission for a 600-MW natural gas-fired power plant in Sutter County, California, and appurtenant facilities including 12 miles of natural gas and 4 miles of electrical transmission lines. Coordinated a multidisciplinary team during the Discovery and Decision phases of licensing. Key analyses included preparing water temperature and water quality models, identifying emission reduction credits, and assessing potential impacts along an electrical transmission route. This was the first merchant power plant in California to obtain a favorable CEC licensing decision. The project has been commissioned and is in operation.

Environmental Specifications for the Piñon Pine Power Project, Sierra Pacific Power Company – Project Manager for regulatory compliance specifications manual for final design and construction phases of Integrated Gasification Combined Cycle power plant in eastern Nevada. Directed a multidisciplinary team to prepare discipline-specific environmental specifications for construction and operation.

Critical Project Development and Licensing Reviews, Calpine Corporation – Project Manager for critical project development and licensing issues reviews for prospective power plant development sites in California. Managed a multidisciplinary team that assessed critical issues in terms of air quality, land use, visual resources, biological resources, noise, socioeconomics, and geological hazards for ten prospective power plant sites at various locations throughout California.

Education

Ph.D., Archaeology, Southern Illinois University

M.A., Anthropology, Southern Illinois University

B.A., Anthropology, University of California, Santa Cruz

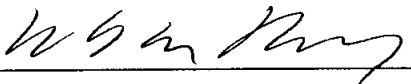
**DECLARATION OF
Douglas Davy, PhD.**

I, Douglas Davy, declare as follows:

1. I am presently employed by CH2MHill as the LECEF AFC Project Manager.
2. A copy of my professional qualifications and experience is contained in Attachment A of the testimony.
3. I prepared the attached Facility Design, Power Plant Reliability, and Power Plant Efficiency testimony for the Los Esteros Critical Energy Facility based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 23, 2005

Signed: 

At: Sacramento, CA

**DECLARATION OF
Douglas Davy, PhD.**

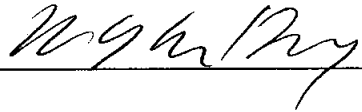
I, Douglas Davy, declare as follows:

1. I am presently employed by CH2MHill as the LECEF AFC Project Manager.
2. A copy of my professional qualifications and experience is contained in Attachment A of the testimony.
3. I prepared the attached Transmission Line Safety and Nuisance testimony for the Los Esteros Critical Energy Facility based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
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I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 23, 2005

Signed: _____



At: Sacramento, CA

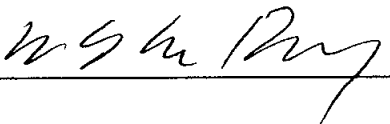
**DECLARATION OF
Douglas Davy, PhD.**

I, Douglas Davy, declare as follows:

1. I am presently employed by CH2MHill as the LECEF AFC Project Manager.
2. A copy of my professional qualifications and experience is contained in Attachment A of the testimony.
3. I prepared the attached Transmission System Engineering testimony for the Los Esteros Critical Energy Facility based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

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Dated: June 23, 2005

Signed: 

At: Sacramento, CA

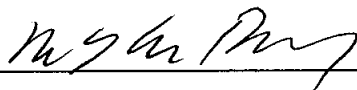
DECLARATION OF
Douglas Davy, PhD.

I, Douglas Davy, declare as follows:

1. I am presently employed by CH2MHill as the LECEF AFC Project Manager.
2. A copy of my professional qualifications and experience is contained in Attachment A of the testimony.
3. I prepared the attached Alternatives testimony for the Los Esteros Critical Energy Facility based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

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Dated: June 23, 2005

Signed: 

At: Sacramento, CA

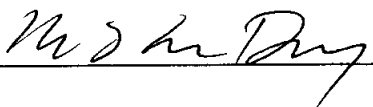
DECLARATION OF
Douglas Davy, PhD.

I, Douglas Davy, declare as follows:

1. I am presently employed by CH2MHill as the LECEF AFC Project Manager.
2. A copy of my professional qualifications and experience is contained in Attachment A of the testimony.
3. I prepared the attached Biological Resources testimony for the Los Esteros Critical Energy Facility based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 23, 2005

Signed: 

At: Sacramento, CA

DECLARATION OF
Douglas Davy, PhD.

I, Douglas Davy, declare as follows:

1. I am presently employed by CH2MHill as the LECEF AFC Project Manager.
2. A copy of my professional qualifications and experience is contained in Attachment A of the testimony.
3. I prepared the attached Cultural Resources testimony for the Los Esteros Critical Energy Facility based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 23, 2005

Signed: 

At: Sacramento, CA

DECLARATION OF
Douglas Davy, PhD.

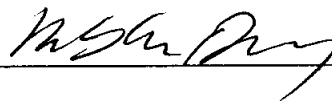
I, Douglas Davy, declare as follows:

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2. A copy of my professional qualifications and experience is contained in Attachment A of the testimony.
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5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 23, 2005

Signed: _____



At: Sacramento, CA

DECLARATION OF
Douglas Davy, PhD.

I, Douglas Davy, declare as follows:

1. I am presently employed by CH2MHill as the LECEF AFC Project Manager.
2. A copy of my professional qualifications and experience is contained in Attachment A of the testimony.
3. I prepared the attached Hazardous Materials Management testimony for the Los Esteros Critical Energy Facility based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 23, 2005

Signed: _____

MSH Davy

At: Sacramento, CA

**DECLARATION OF
Douglas Davy, PhD.**

I, Douglas Davy, declare as follows:

1. I am presently employed by CH2MHill as the LECEF AFC Project Manager.
2. A copy of my professional qualifications and experience is contained in Attachment A of the testimony.
3. I prepared the attached Land Use testimony for the Los Esteros Critical Energy Facility based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 23, 2005

Signed: _____



At: Sacramento, CA

**DECLARATION OF
Douglas Davy, PhD.**

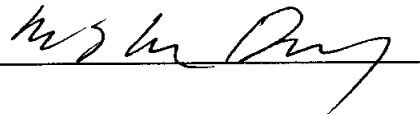
I, Douglas Davy, declare as follows:

1. I am presently employed by CH2MHill as the LECEF AFC Project Manager.
2. A copy of my professional qualifications and experience is contained in Attachment A of the testimony.
3. I prepared the attached Noise and Vibration testimony for the Los Esteros Critical Energy Facility based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 23, 2005

Signed: _____



At: Sacramento CA

DECLARATION OF
Douglas Davy, PhD.

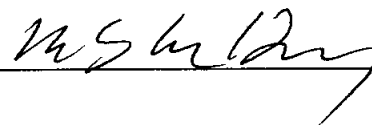
I, Douglas Davy, declare as follows:

1. I am presently employed by CH2MHill as the LECEF AFC Project Manager.
2. A copy of my professional qualifications and experience is contained in Attachment A of the testimony.
3. I prepared the attached Geology and Paleontological Resources testimony for the Los Esteros Critical Energy Facility based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
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I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 23, 2005

Signed: _____



At: Sacramento, CA

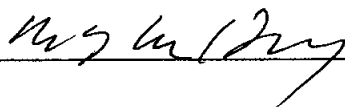
**DECLARATION OF
Douglas Davy, PhD.**

I, Douglas Davy, declare as follows:

1. I am presently employed by CH2MHill as the LECEF AFC Project Manager.
2. A copy of my professional qualifications and experience is contained in Attachment A of the testimony.
3. I prepared the attached Socioeconomic Resources testimony for the Los Esteros Critical Energy Facility based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 23, 2005

Signed: 

At: Sanamento, CA

DECLARATION OF
Douglas Davy, PhD.

I, Douglas Davy, declare as follows:

1. I am presently employed by CH2MHill as the LECEF AFC Project Manager.
2. A copy of my professional qualifications and experience is contained in Attachment A of the testimony.
3. I prepared the attached Soil and Water Resources testimony for the Los Esteros Critical Energy Facility based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 23, 2005

Signed: _____



At: Sacramento, CA

**DECLARATION OF
Douglas Davy, PhD.**

I, Douglas Davy, declare as follows:

1. I am presently employed by CH2MHill as the LECEF AFC Project Manager.
2. A copy of my professional qualifications and experience is contained in Attachment A of the testimony.
3. I prepared the attached Traffic and Transportation testimony for the Los Esteros Critical Energy Facility based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 23, 2005

Signed: _____

At: Sanramento CA

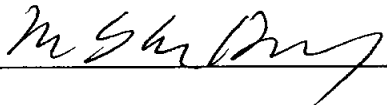
**DECLARATION OF
Douglas Davy, PhD.**

I, Douglas Davy, declare as follows:

1. I am presently employed by CH2MHill as the LECEF AFC Project Manager.
2. A copy of my professional qualifications and experience is contained in Attachment A of the testimony.
3. I prepared the attached Visual Resources testimony for the Los Esteros Critical Energy Facility based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 23, 2005

Signed: 

At: *Sacramento, CA*

**DECLARATION OF
Douglas Davy, PhD.**

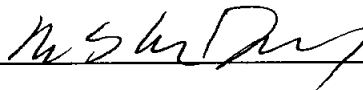
I, Douglas Davy, declare as follows:

1. I am presently employed by CH2MHill as the LECEF AFC Project Manager.
2. A copy of my professional qualifications and experience is contained in Attachment A of the testimony.
3. I prepared the attached Waste Management testimony for the Los Esteros Critical Energy Facility based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 23, 2005

Signed: _____



At: Sacramento CA

**DECLARATION OF
Douglas Davy, PhD.**

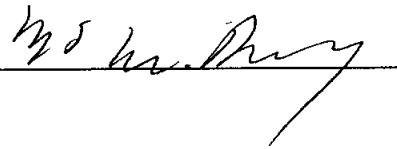
I, Douglas Davy, declare as follows:

1. I am presently employed by CH2MHill as the LECEF AFC Project Manager.
2. A copy of my professional qualifications and experience is contained in Attachment A of the testimony.
3. I prepared the attached Worker Safety and Fire Protection testimony for the Los Esteros Critical Energy Facility based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: June 23, 2005

Signed: _____



At: Sacramento, CA

Résumé

Gary S. Rubenstein

Education

1973, B.S., Engineering, California Institute of Technology

Professional Experience

August 1981 - Present Senior Partner
Sierra Research

As one of the founding partners of Sierra Research, responsibilities include project management and technical and strategy analysis in all aspects of air quality planning and strategy development; project licensing and impact analysis; emission control system design and evaluation; rulemaking development and analysis; vehicle inspection and maintenance program design and analysis; and automotive emission control design, from the initial design of control systems to the development of methods to assess their performance in customer service. As the Partner principally responsible for Sierra Research's activities related to stationary sources, he has supervised the preparation of control technology assessments, environmental impact reports and permit applications for numerous industrial projects, including over 16,000 megawatts of electrical generating capacity, throughout the United States.

While with Sierra, Mr. Rubenstein has managed and worked on numerous projects, including preparation of ozone and carbon monoxide nonattainment plans; preparation and review of emission inventories and control strategies; preparation of the air quality portions of environmental review documents for controversial transportation, energy, mineral industry and landfill projects; and the development of air quality mitigation programs. Mr. Rubenstein has managed the preparation of air quality licensing applications for over 11,000 megawatts of generating capacity before the California Energy Commission.

Mr. Rubenstein has presented testimony and served as a technical expert witness before numerous state and local regulatory agencies, including the U.S. Environmental Protection Agency, California State Legislative Committees, the California Air Resources Board, the California Energy Commission, the California Public Utilities Commission, numerous California air pollution control districts, the Connecticut Department of Environmental Protection, the Hawaii Department of Health, and the Alabama Department of Environmental Management. Mr. Rubenstein has also served as a technical expert on behalf of the California Attorney General and Alaska Department of Law.

Additional project experience includes the conduct and supervision of projects related to the development of emissions inventories for air quality planning purposes; the assessment of air

quality trends; preparation of State Implementation Plans; the development and exercise of motor vehicle emission factor models; the analysis of motor vehicle emission data; and the preparation of legislative and regulatory analyses.

June 1979 - July 1981 Deputy Executive Officer
California Air Resources Board

Responsibilities included policy management and oversight of the technical work of ARB divisions employing over 200 professional engineers and specialists; final review of technical reports and correspondence prepared by all ARB divisions prior to publication, covering such diverse areas as motor vehicle emission standards and test procedures, motor vehicle inspection and maintenance, and air pollution control techniques for sources such as oil refineries, power plants, gasoline service stations and dry cleaners; review of program budget and planning efforts of all technical divisions at ARB; policy-level negotiations with officials from other government agencies and private industry regarding technical, legal, and legislative issues before the Board; representing the California Air Resources Board in public meetings and hearings before the California State Legislature, the California Energy Commission, the California Public Utilities Commission, the Environmental Protection Agency, numerous local government agencies, and the news media on a broad range of technical and policy issues; and assisting in the supervision of over 500 full-time employees through the use of standard principles of personnel management and motivation, organization, and problem solving.

July 1978 - July 1979 Chief, Energy Project Evaluation Branch
Stationary Source Control Division
California Air Resources Board

Responsibilities included supervision of ten professional engineers and specialists, including the use of personnel management and motivation techniques; preparation of a major overhaul of ARB's industrial source siting policy; conduct of negotiations with local officials and project proponents on requirements and conditions for siting such diverse projects as offshore oil production platforms, coal-fired power plants, marine terminal facilities, and almond-hull burning boilers.

During this period, Mr. Rubenstein was responsible for the successful negotiation of California's first air pollution permit agreements governing a liquefied natural gas terminal, coal-fired power plant, and several offshore oil production facilities.

October 1973 - Staff Engineer
July 1978 Vehicle Emissions Control Division
California Air Resources Board

Responsibilities included design and execution of test programs to evaluate the deterioration of emissions on new and low-mileage vehicles; detailed analysis of the effect of California

emission standards on model availability and fuel economy; analysis of proposed federal emission control regulations and California legislation; evaluation of the cost-effectiveness of vehicle emission control strategies; evaluation of vehicle inspection and maintenance programs, and preparation of associated legislation, regulations and budgets; and preparation of detailed legal and technical regulations regarding all aspects of motor vehicle pollution control. Further duties included preparation and presentation of testimony before the California Legislature and the U.S. Environmental Protection Agency; preparation of division and project budgets; and creation and supervision of the Special Projects Section, a small group of highly trained and motivated individuals responsible for policy proposals and support in both technical and administrative areas (May 1976 to July 1978).

Certifications

Qualified Environmental Professional, Institute of Professional Environmental Practice, 1994

Professional Associations

Air & Waste Management Association (Member, Board of Directors, Golden West Section; Program Chair, Golden West Section)

American Society of Mechanical Engineers

DECLARATION OF
Gary Rubenstein

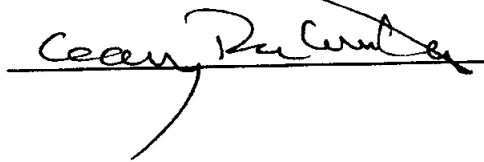
I, Gary Rubenstein, declare as follows:

1. I am presently employed by Sierra Research as a Senior Partner.
2. A copy of my professional qualifications and experience has been previously filed with the Commission as part of the Applicant's pre-hearing conference statement.
3. I prepared the attached testimony on Air Quality, with supporting information related to public health, biological resources, and visual resources, for the Los Esteros Critical Energy Facility, Phase II, based on my independent analysis and my professional experience and knowledge.
4. It is my professional opinion that the prepared testimony is valid and accurate with respect to the issue(s) addressed herein.
5. I am personally familiar with the facts and conclusions related in the testimony and if called as a witness could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: JUNE 22, 2005

Signed: _____



At: Sacramento, California

STATE OF CALIFORNIA


Energy Resources Conservation
and Development Commission

Application for Certification for the)
LOS ESTEROS CRITICAL ENERGY FACILITY) Docket No. 03-AFC-2
PHASE 2)
(LOS ESTEROS 2))
_____)

PROOF OF SERVICE

I, Ron O'Connor, declare that on June 23, 2005, I deposited copies of the attached
Applicant's Prehearing Conference Statement in the United States mail in Sacramento,
California, with first-class postage thereon fully prepaid and addressed to all parties on the
attached service list.

I declare under the penalty of perjury that the foregoing is true and correct.



Ron O'Connor

SERVICE LIST**03-AFC-2****Calpine**

Rick Tetzloff, Project Manager
700 NE Multhomah, Suite 870
Portland, OR 97232

Steve DeYoung, Env. Manager
4155 Arbolado Drive
Walnut Creek, CA 94598

San Jose Dept. of City Planning and
Building Code Enforcement
Richard Buikema, Sr. Planner II
801 N. First Street, Room 400
San Jose, CA 95110

County of Santa Clara Planning Office
Bob Eastwood
County Government Center
70 West Hedding Street
East Wing, 7th Floor
San Jose, CA 95110-1705

Santa Clara Valley Water District
Luis Jaimes
5750 Almaden Expressway
San Jose, CA 95118-3686

California Air Resources Board
Michael Tollstrup
Project Assessment Branch
P.O. Box 2815
Sacramento, CA 95812

William DeBoisblanc, Director Permit Services
Bay Area Air Quality Mgmt. District
939 Eillis Street
San Francisco, CA 94109

Regional Water Quality Control Board
Judy Huang
1515 Clay Street, Suite 1400
Oakland, CA 94612

City of San Jose
Environmental Services Department
Municipal Water System Division
3025 Tuers Road
San Jose, CA 95121

Cal-Independent System Operator
Jeff Miller
151 Blue Ravine Road
Folsom, CA 95630

Electricity Oversight Board
770 L St., Suite 1250
Sacramento, CA 95814

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CURE
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Californians for Renewable Energy
Michael E. Boyd, President
5439 Soquel Drive
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Californians for Renewable Energy
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